

# **Safety, Health and Environment Quarterly report**

## **Quarter 1 2021/22**

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# Introduction

This report summarises our performance in the last Quarter and identifies strategic trends covering the period from 01 April 2021 to 26 June 2021, unless specified.

It sets out ways in which we have continued to keep our customers and workforce during the coronavirus pandemic. This Quarter, our priority was to reassure them that we continue to operate safe services as we maintain and strengthen measures to help with the pandemic. In parallel, we have continued to make progress towards our longer-term safety, health and environmental objectives.

During Quarter 1, there were lower than normal passenger numbers and on-street activity as Government restrictions remained in place. This reduced travel meant many of our key safety, staff and environmental performance indicators remain at different levels than they might normally be. Despite this, we continued to implement measures to improve our short- and longer-term safety, health and environmental performance.

## About this report

This report explores and highlights the performance, trends and measures we are implementing to improve performance in safety, health and environment.

Throughout this report, our 'customers' refers to direct users of our services, and our 'workforce' includes our directly employed staff as well as people working in our supply chain. For both groups, we use data collected directly from our operational businesses. Some assault data comes from both our own internal reporting systems and the police.

When referring to people killed or seriously injured, the following causes of injury are excluded: an injury which results from an incident arising from a disclosed pre-existing medical condition; intentional self-harm resulting in a physical injury or death; criminal activities perpetrated by customers or members of the public on other customers or members of the public.

Unless otherwise stated, 'streets' refers to all of London's roads, including those managed by the London borough councils. Where we report safety data for streets, we use data collected by the Metropolitan Police Service and the City of London Police, in line with Government requirements. All road safety data is provisional and subject to review and assurance, with the final data published annually in line with Department for Transport requirements.

## Reporting period

Most data covers the Quarter from 01 April 2021 to 26 June 2021, except for some work-related violence and aggression data which is reported 6 months in arrears. Some data is provisional and is subject to change.

# Mayor's Transport Strategy and Scorecard

Our role is to enable London to move safely and sustainably, in line with the goals of the Mayor's Transport Strategy. This includes increasing the attractiveness of public transport and making cycling and walking easier and more convenient options. We work with many partners, including London borough councils, businesses, the police, local communities and consumer organisations.

## Scorecard

Our Quarter 1 scorecard targets are listed in the table below.

Quarter 1 2021/22 Scorecard			
Measure	Unit	Q1 Target	Q1 Actual
People killed or seriously injured in road traffic collisions per million journey stages	Killed or seriously injured per million journey stages	0.45	0.39
People killed or seriously injured in road traffic collisions in or by a London Bus (per million surface journey stages)	Killed or seriously injured per million journey stages	0.020	0.020
Customer all injuries per million passenger journeys	All injuries per million journeys	2.52	2.85
Workforce all injuries	Number of workforce injuries	438	351

The table sets out the relevant scorecard metrics, and accompanying targets and actual performance. Below are brief explanations of the performance of each measure. More detailed explanations, with accompanying graphs is set out in the relevant section of the report.

### **Road safety measure**

Working towards our Vision Zero ambition to eliminate death and serious injury on the roads, our aim is to reduce the number to fewer than 0.45 people killed or seriously injured on the roads per million journeys. Our Quarter 1 result was 0.39 people killed or seriously injured on the roads per million journeys.

### **Bus safety measure**

Our ambition is that no one is killed or seriously injured on, or by a bus. In Quarter 1, our aim was to have no greater than 0.020 deaths or serious injuries per million surface journey stages. There were 0.020 deaths or serious injuries per million surface journey stages. This is a positive result as we progress on our journey towards zero.

### **Public transport customer safety measure**

Working towards our ambition to eliminate deaths and injuries on our public transport network, our aim is to have fewer than 2.52 injuries to our customers per million journey stages. In Quarter 1, the result was 2.85, missing this target. More customers returned to our network during Quarter 1, with a wider variety of reasons for travel. It is too early to fully understand the reasons behind this Quarter's results, but slip, trip and fall incidents on stairs and escalators remain high, and there was a slight increase in intoxication related incidents.

### **Public transport workforce safety measure**

We want to deliver on the TfL objective of 'Everyone home safe and healthy every day' and want to eliminate all deaths and injuries on our public transport network. There were 351 injuries to our workforce in Quarter 1, meeting our aim of fewer than 438 workforce injuries. This is a positive result, but a reminder we must strive for continuous improvement when it comes to the safety of our workforce.

# Safety

This section summarises our safety performance across road safety, public transport operations, capital delivery activities and work-related violence. It provides an overview of key trends for the year and the areas we are targeting for improvement.

## Road safety performance

Quarter 1 in 2021/22 involved very different circumstances to Quarter 1 2020/21. The former involved an easing of lockdown restrictions which meant more people were out on the network, whereas the latter was dominated by the first lockdown at the start of the pandemic.

2020 was an exceptional year in terms of traffic levels, but we are now reaching a point in 2021 where traffic is near normal, stabilising and becoming more predictable. It is helpful to keep this in mind when comparing Quarter 1 2021/22 results with 2020/21, and to look at Quarter 1 2019/20 as a more “normal” year for comparison.

## Quarterly performance

Number of people killed	Q1 2019/20	Q1 2020/21	Q1 2021/22*
Pedestrian	18	3	8
Pedal cycle	0	2	1
Powered two-wheeler	8	9	4
Car	1	2	0
Bus or coach	1	0	1
Taxi	0	0	0
Private hire	0	0	0
Goods vehicle	0	0	0
Other vehicle	0	0	1
<b>Total</b>	<b>28</b>	<b>16</b>	<b>15</b>

Number of people seriously injured	Q1 2019/20	Q1 2020/21	Q1 2021/22*
Pedestrian	267	90	193
Pedal cycle	192	169	257
Powered two-wheeler	227	139	226
Car	109	87	101
Bus or coach	20	6	23
Taxi	7	1	0
Private hire	3	1	3
Goods vehicle	12	6	8
Other vehicle	2	12	38
Total	<b>839</b>	<b>511</b>	<b>849</b>

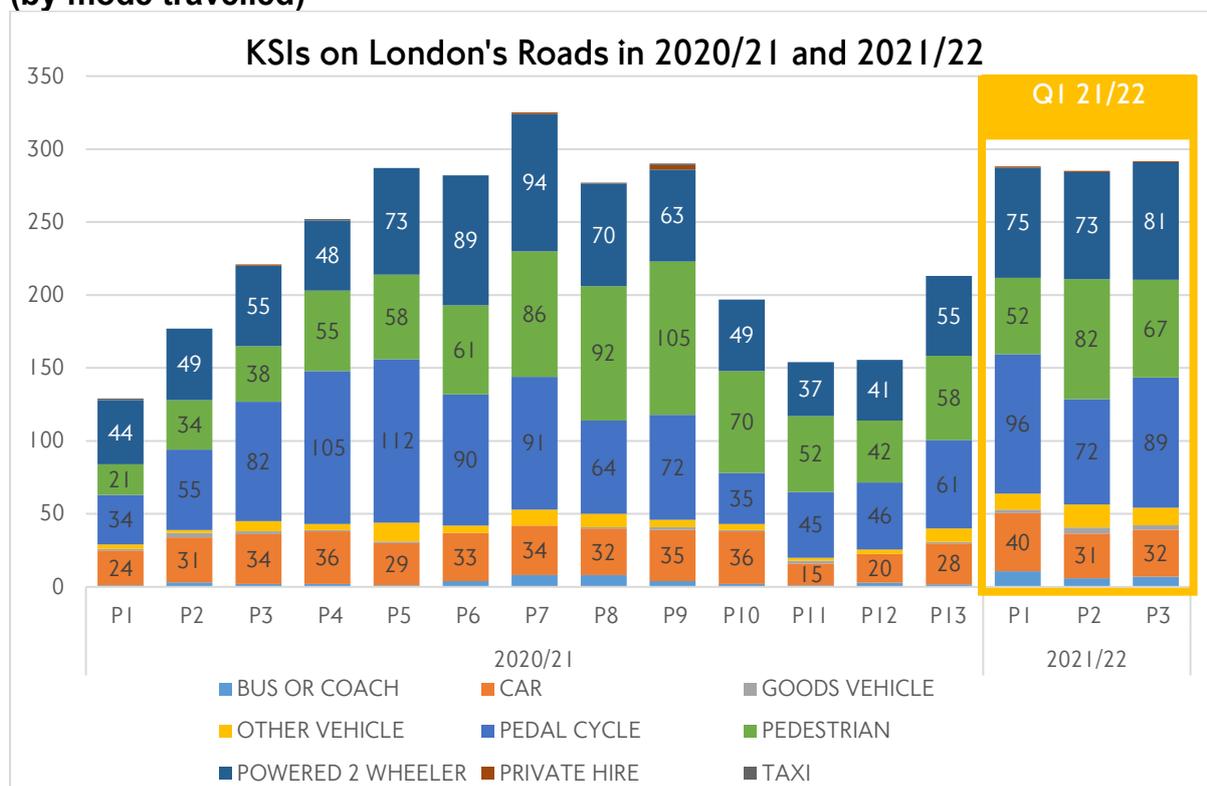
*\*Quarter 1 2021/22 figures are provisional and subject to change.*

The number of people walking who were killed in Quarter 1 2021/22 increased compared to the same period in 2020/21, despite the number of people killed overall remaining similar. This was offset by the decline in people killed using powered two wheelers and cars. The number of people seriously injured increased across all modes except taxis. This increase is likely a reflection of the easing of lockdown restrictions in Quarter 1 2021/22, including the reopening of non-essential retail and indoor hospitality. In contrast, Quarter 1 2020/21 was dominated by the first lockdown at the start of the pandemic.

There were some notable incidents which occurred outside of the period covered by this report but are noted in this report. On 14 July 2021, when a bus pulled away from the bus stop, an older male customer fell down the stairs. He died in hospital a few weeks later. On 4 August 2021, at the junction of Southampton Row and Theobalds Road in Holborn, a person cycling was killed in a collision with a heavy goods vehicle. On 10 August 2021, at Victoria bus station, there was a bus collision which resulted in the tragic death of a female pedestrian. We are currently working with the relevant authorities to investigate each incident.

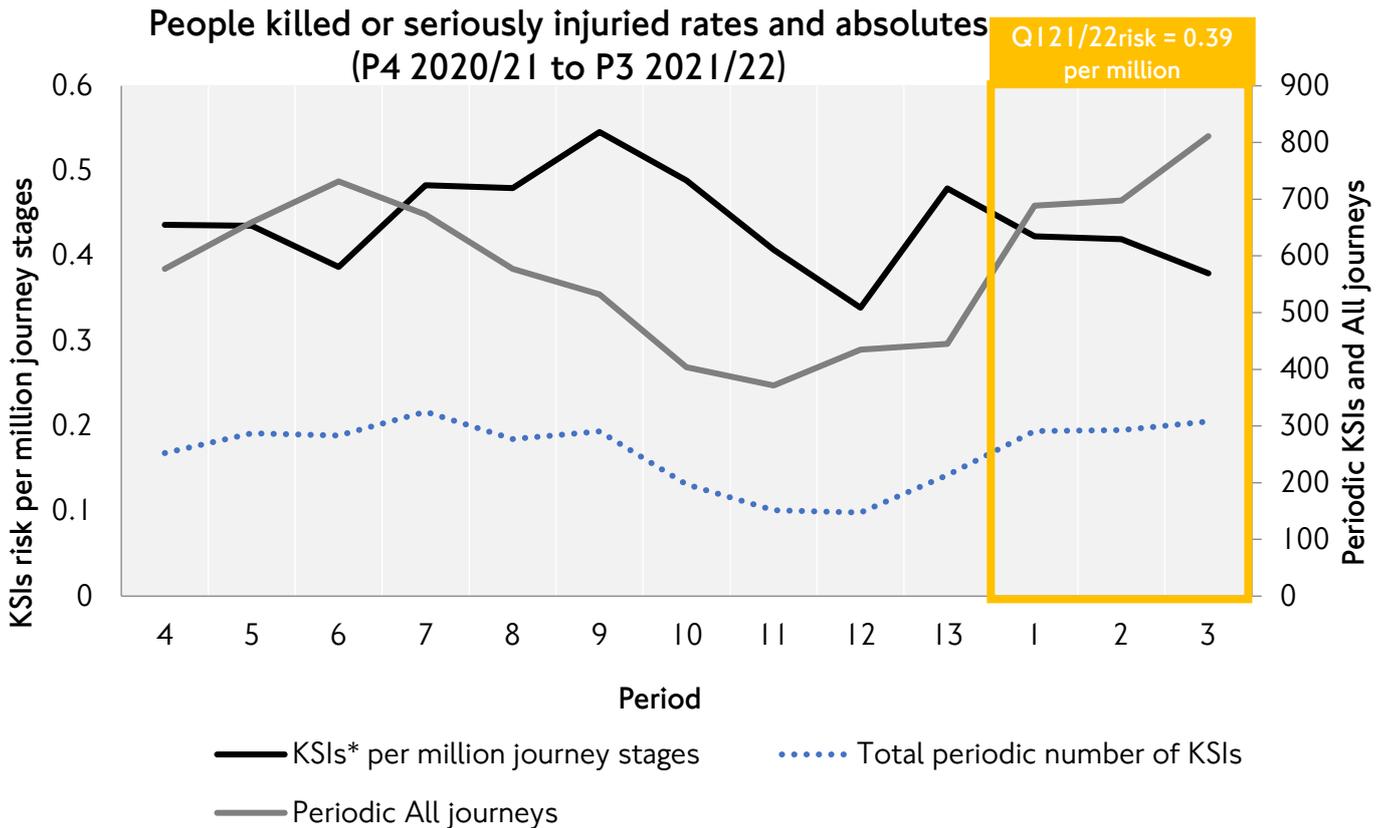
It is useful to compare Quarter 1 2021/22 to Quarter 1 2019/20 data, as that was more reflective of a “normal” year than 2020/21. Fewer people were killed in 2021/22 than 2019/20, but slightly more were seriously injured, with the most notable increase in injuries among people cycling. This reflects the increase in number of cycling journeys rather than an increase in risk. E-scooter usage has risen over the last year, which has led to more incidents involving them.

**People killed or seriously injured on London's roads in 2020/21 and 2021/22 (by mode travelled)**



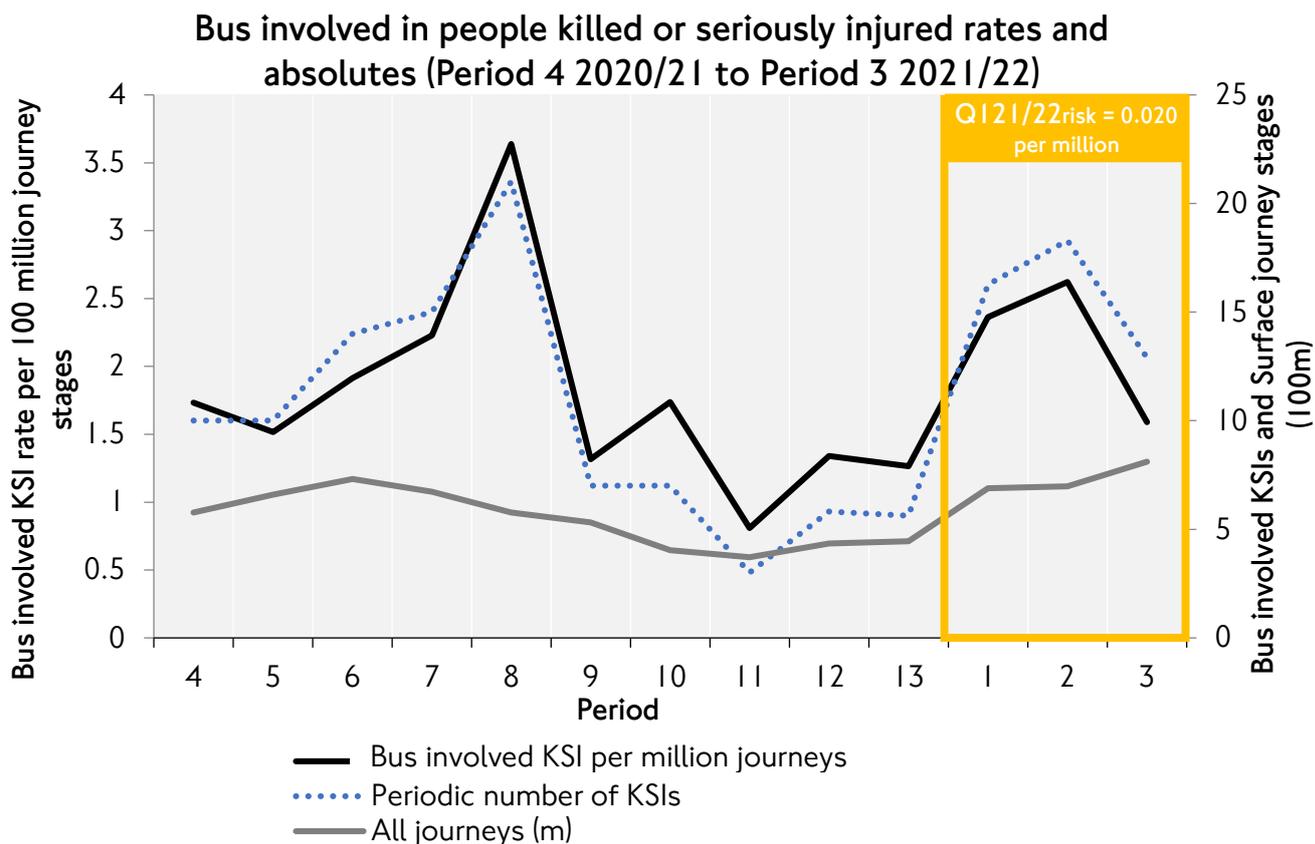
In Quarter 1 2021/22, 259 pedal cyclists were killed or seriously injured, which was higher than the previous year's Quarter (171). More people cycling were killed or seriously injured, compared to other transport modes, followed by powered two-wheeler drivers and then people walking. Before the pandemic, people walking were consistently the most significantly injured group, followed by powered two-wheeler drivers and then people cycling. However, the risk of being killed or seriously injured per journey is falling for people cycling. This reflects a significant increase in the number of people cycling, and a change in where, when and why people are cycling in and across London.

**Scorecard measure: People killed or seriously injured in road traffic collisions 2021/22 (per million journeys)**



Working towards our Vision Zero ambition to eliminate death and serious injury on the roads, our aim is to reduce the number to fewer than 0.45 people killed or seriously injured on the roads per million journeys. Our Quarter 1 result of 0.39 exceeds our target.

**Scorecard measure: Rates of fatal or serious injury experienced by people in collision with buses**



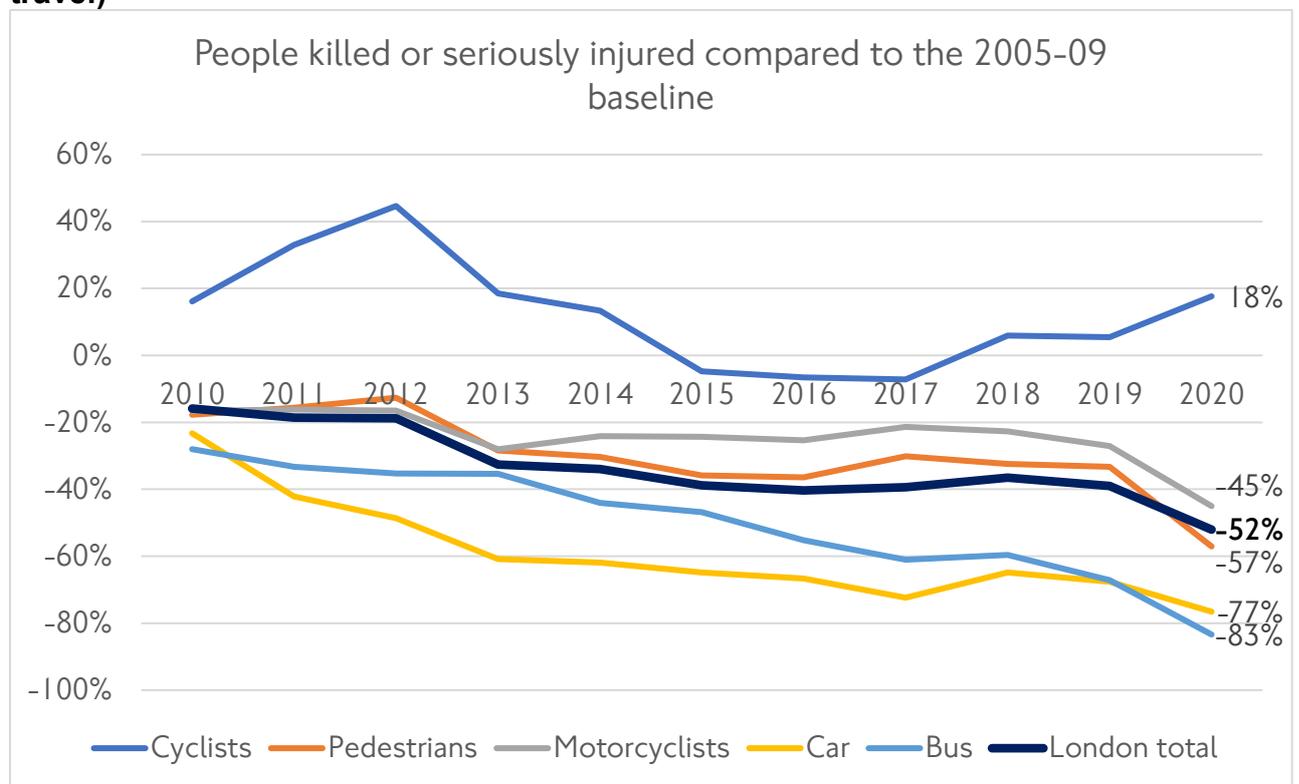
The risk of a bus being involved in a collision that kills or seriously injures either a bus passenger or someone else on the roads remains extremely low. Our Vision Zero target for 2022 is to reduce the number of people killed or seriously injured on or by a bus by 70 per cent, against the 2005-09 baseline.

We met our scorecard target for Quarter 1 of 0.020 deaths or serious injuries per million journeys. Our target is more stretching than the general road safety target of 0.45, to reflect our ability to more directly influence bus services. Road conditions and traffic are slowly returning to pre-pandemic levels. Once there is a sustained level of consistency, we will be more able to draw out emerging trends.

## Long-term trend

Our Vision Zero target is that by 2022 there will be a 65 per cent reduction in the number of people being killed or seriously injured, against 2005-09 levels.

### People killed or seriously injured against the 2005-09 baseline (by mode of travel)

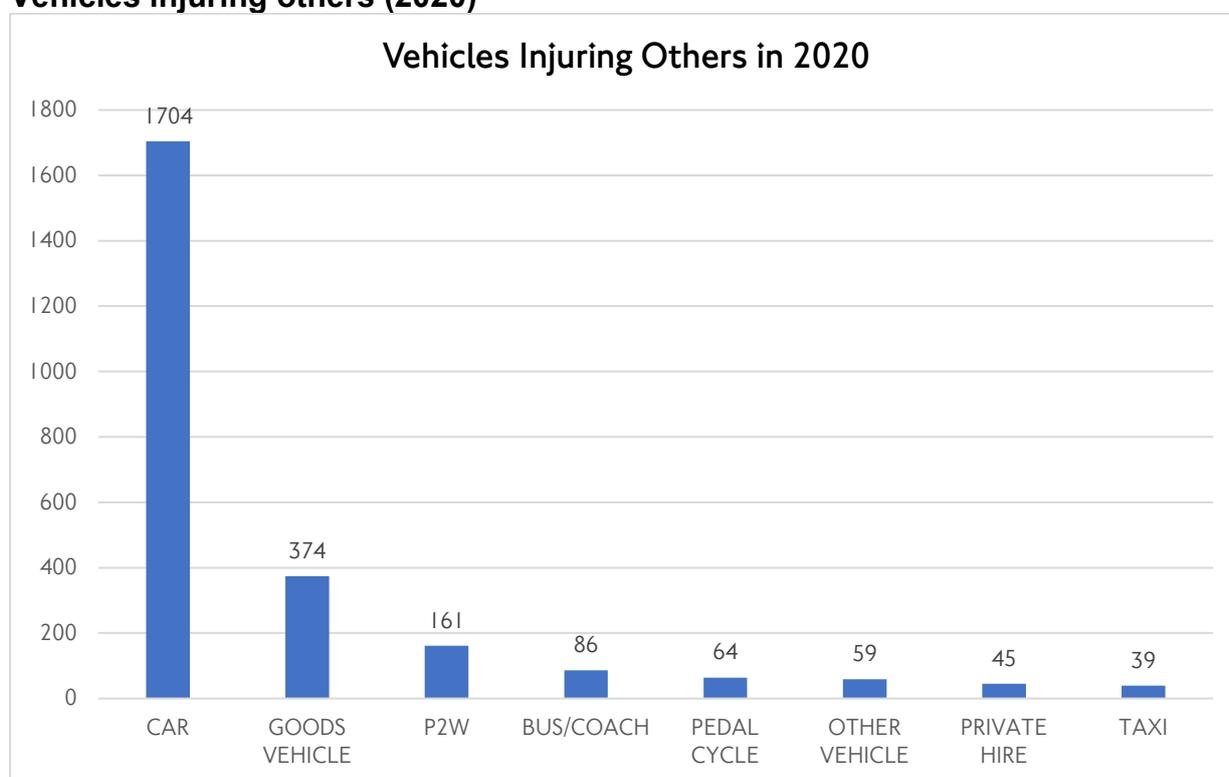


While London has made good strides in reducing road danger, and outperformed many other UK cities, we still have a very long way to go. As a city, we need to do more to reduce deaths and serious injuries among people walking, cycling and riding motorcycles as these groups make up 82 per cent of all people killed or seriously injured on London's roads. We must also not slip back to previous trends, which suggest that if the roads return to 2019 levels of risk after the pandemic, we may not meet our ambitious 2022 target to reduce deaths and serious injuries by 65 per cent, against 2005-09 levels. In 2020, there was a 52 per cent reduction against the 2005-09 baseline. However, this is likely to be an anomaly to the long-term trend and we expect road risk in the medium term to more closely resemble pre-pandemic levels of risk.

People killed or injured while cycling has increased by 18 per cent compared to the 2005-09 baseline. However, this is due to a modal shift towards more active modes. The rate of injuries per million journeys cycled has fallen since the baseline.

Buses carry more people than any other public transport mode in London and are also the safest way to travel. Our Bus Safety Programme has helped achieve the greatest reduction in people killed or seriously injured of any mode on the roads, with a 78 per cent reduction in 2020 against the 2005-09 baseline, exceeding our Vision Zero target of 70 per cent by 2022

### Vehicles injuring others (2020)



Cars remain the most likely mode to be involved in a collision that kills or seriously injures someone else on the road, being involved in 67 per cent of collisions that kill or seriously injure people outside the vehicle.

The size of cars being driven in London has been steadily increasing, meaning they have more kinetic energy and can cause more harm to vulnerable road users. Provisional figures for 2020 show that around one in five cars involved in collisions were sports utility vehicles.

The long-term trend has continued for certain vehicles to be disproportionately hazardous to other road users. Motorcycles are most likely, per journey, to be involved in a collision that kills or seriously injures another road user, particularly people walking and cycling. Heavy goods vehicles also kill or seriously injure people at a rate disproportionate to their share of traffic. This is why we have specific programmes to reduce risks from these road users, such as our Direct Vision Standard and upcoming plans to tackle risk from powered two wheelers.

## **Road safety updates**

### **Safer Junctions**

Works to make safety improvements have been completed at 42 of London's most dangerous junctions.

We have introduced measures at all the sites to reduce road danger, such as dedicated cycle signals, footway improvements, side road closures, new and more direct crossings, and dedicated traffic signal stages for people cycling.

In the coming year, further junctions will be upgraded, subject to funding, including Camden Road/Camden Street and Holloway Road/Drayton Park.

### **Streetspace for London programme**

The Streetspace for London programme of temporary and experimental measures has continued to deliver at pace. So far, some 93km of strategic cycle routes have been completed, with a further 18km under construction.

As we recover from the pandemic, we will continue to monitor the impacts of these trial schemes on cycling and other modes, as well as engaging local communities and stakeholders to inform which schemes could be made permanent.

Borough delivery continues to make good progress, with construction of trial routes taking place across 10 London boroughs.

Of the 107 Low Traffic Neighbourhoods (LTNs) delivered by boroughs under the Streetspace for London programme, 88 remain operational at the time of writing, as do 322 school streets, from a total of 335 that were funded. A study by academics at the London School of Hygiene and Tropical Medicine, Westminster University and Imperial College London examined casualty data for 72 LTNs implemented in

London between March and September 2020. They found that London neighbourhoods in which LTNs have been introduced have halved road injuries.

A further 38 low traffic neighbourhoods and three school streets will be delivered under the Active Travel Fund, alongside numerous improvements and upgrades to existing schemes. These will be delivered during this financial year.

### **Lowering speed limits**

Lowering the speed of vehicles in London is key to reducing both the likelihood of a collision occurring and the severity of the outcome. The Lowering Speed Limits programme plays a vital contribution to the Mayor's Vision Zero ambition to eradicate fatal and serious injury collisions from London's roads by 2041. The second phase of the programme is under way, reducing the speed by 10mph on more than 140km of our roads. Currently, nearly 80km of our roads are subject to a 20mph speed limit. Design work is progressing well, with the first schemes undergoing local stakeholder engagement.

We have also been working with developers of the Waze navigation app on a new feature which aims to encourage safer driving. When a vehicle is stationary, the app displays a message from us to remind drivers to drive safely and watch their speed limit. This initiative is part of a wider behaviour change marketing campaign to tackle speeding on our streets.

### **Electric scooter trials**

Following an open and competitive procurement process, operators Dott, Lime and Tier have been selected to deliver an electric scooter rental trial in London. The trial began on 7 June 2021 for an initial 12 months. The rental electric scooters are only to be used on roads and cycleways, not on pavements, and must be hired from and parked in designated parking locations.

Safety will be at the core of the trial, with scooters limited to a maximum speed of 12.5mph. Throughout the trial, data shared by the operators and collected from wider stakeholders will play a vital role in helping to shape London policy and the UK's future legislation on electric scooters. Alongside London Councils and participating boroughs, we will work together to ensure operators comply with the safety, parking and operating standards of the contract.

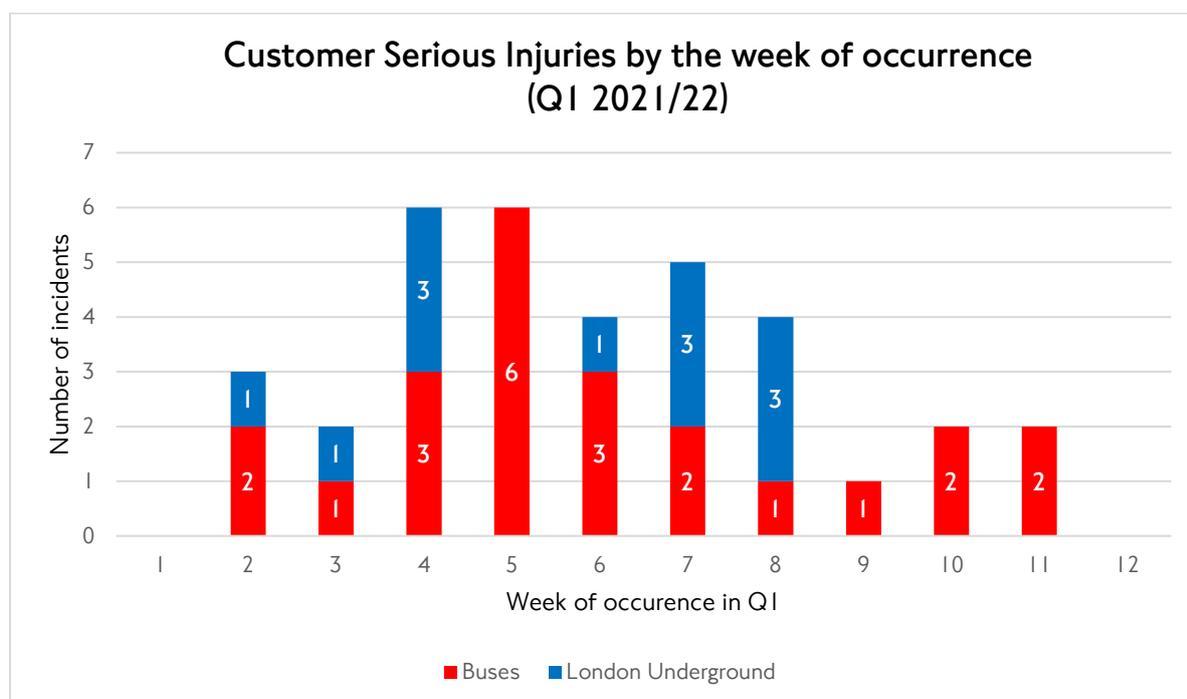
## **Public transport safety performance**

### **Quarterly performance**

Quarter 1 included easing of some lockdown restrictions – such as the reopening of non-essential retail and indoor hospitality – which have had a large impact on customer numbers. From the beginning to the end of Quarter 1, customer numbers on public transport increased by approximately 20 million per week and stabilised at around 45 million customers per week by the end of June 2021. This is more than double the number of weekly customers compared to the end of Quarter 1 2020/21, which was dominated by the first pandemic lockdown.

No other accidental fatalities occurred during Quarter 1. This compares to two reportable fatalities in Quarter 1 of 2020/21, despite significantly lower passenger numbers during the first lockdown. Since Quarter 1 ended, there was a customer injury at Canning Town bus station on 20 July 2021. A glazed roof panel spontaneously shattered and showered a passing member of the public with glass fragments. An investigation has begun in order to establish the circumstances leading up to the sudden failure.

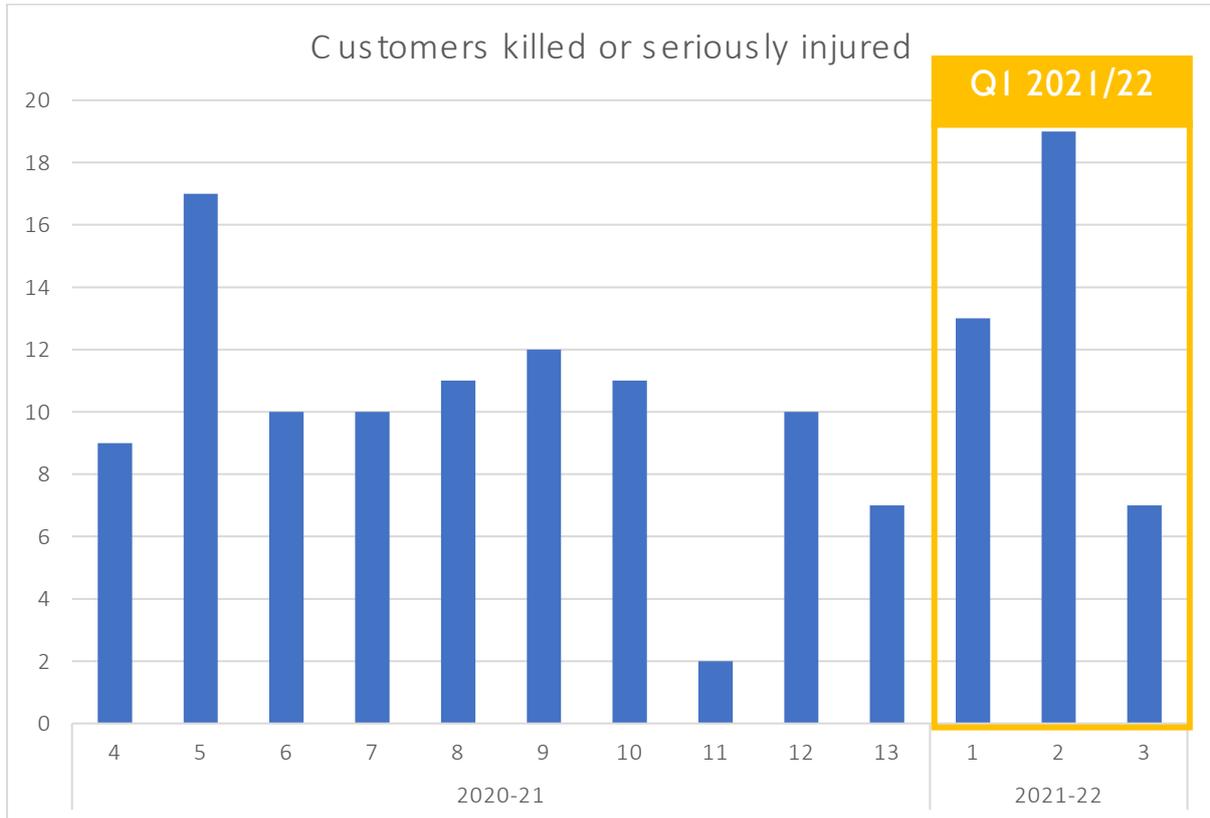
## Customers killed or seriously injured per week in Quarter 1 (by mode)



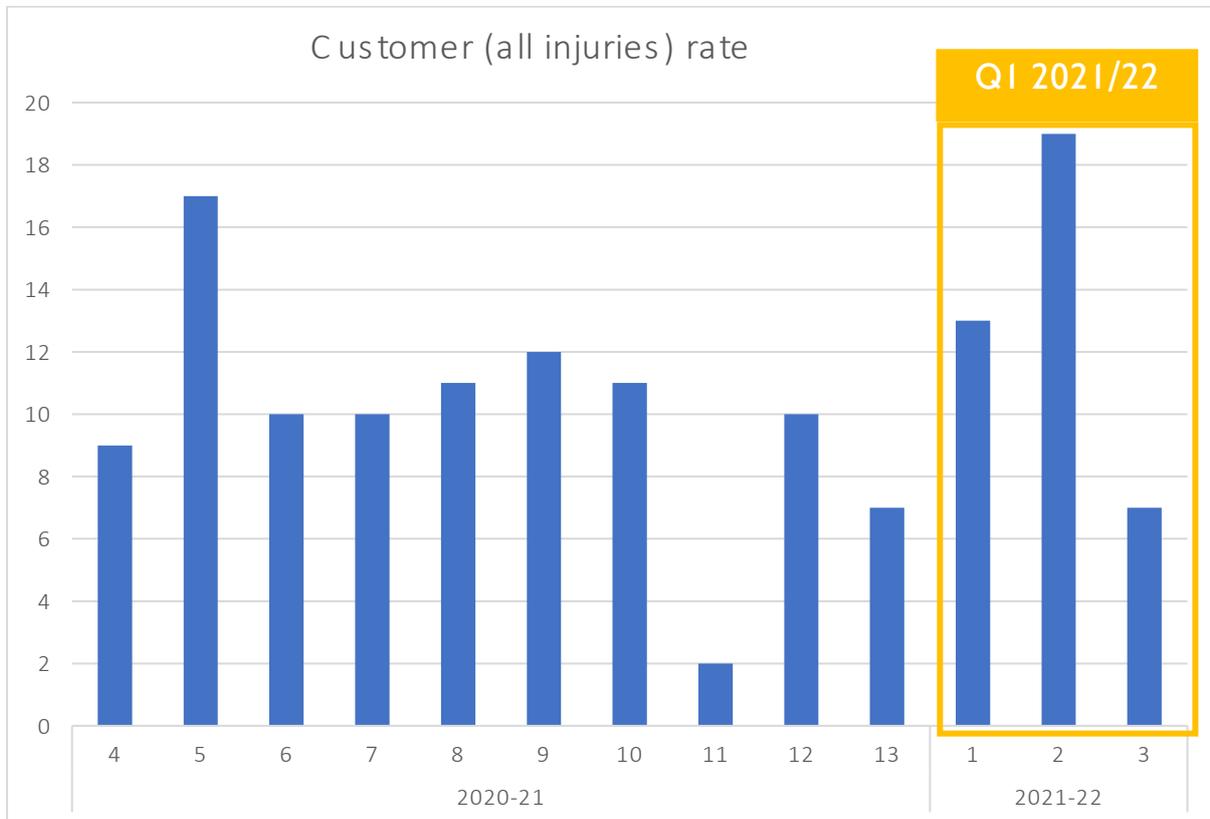
Focusing on our customers, serious injuries have increased in Quarter 1 2021/22 compared to Quarter 1 2020/21. Looking at serious injuries alone means we have counted a higher number of total fatal and serious injuries this Quarter than any Quarter during 2020/21 (see chart below).

Very sadly, the number of people killed or seriously injured has increased in line with the return of customers to the network. So the number of journeys taken for each fatal or serious injury this Quarter is greater than the number of journeys taken for each fatal or serious injury during Quarter 1 of the previous financial year. In other words, while the number of total fatal and serious injuries have increased, the rate has decreased.

**Customers killed or seriously injured per period this year (total)**



**Scorecard measure: Customer injury rate (per million passenger journeys)**

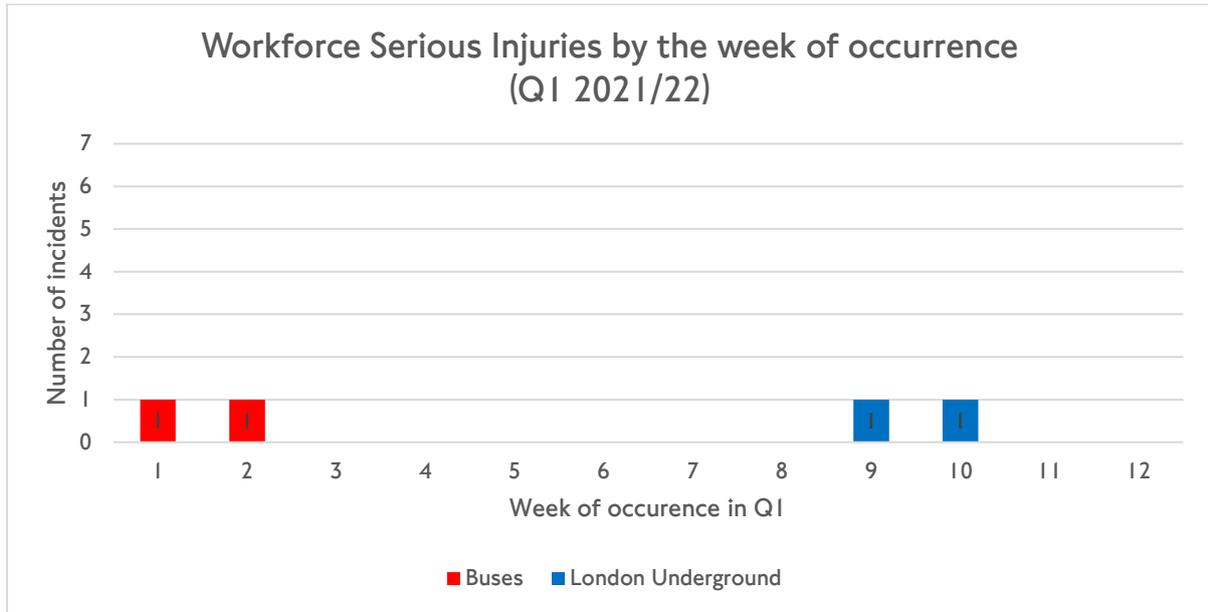


Our customer all injury rate has been relatively high this Quarter, demonstrating that this Quarter's growth in customer numbers has been slightly outweighed by a larger proportional growth in total injuries.

The rate of injuries which happened on stairs and escalators have remained relatively high. There has also been a slight uplift in the rate of injuries where intoxication was a factor, compared to the preceding Quarter.

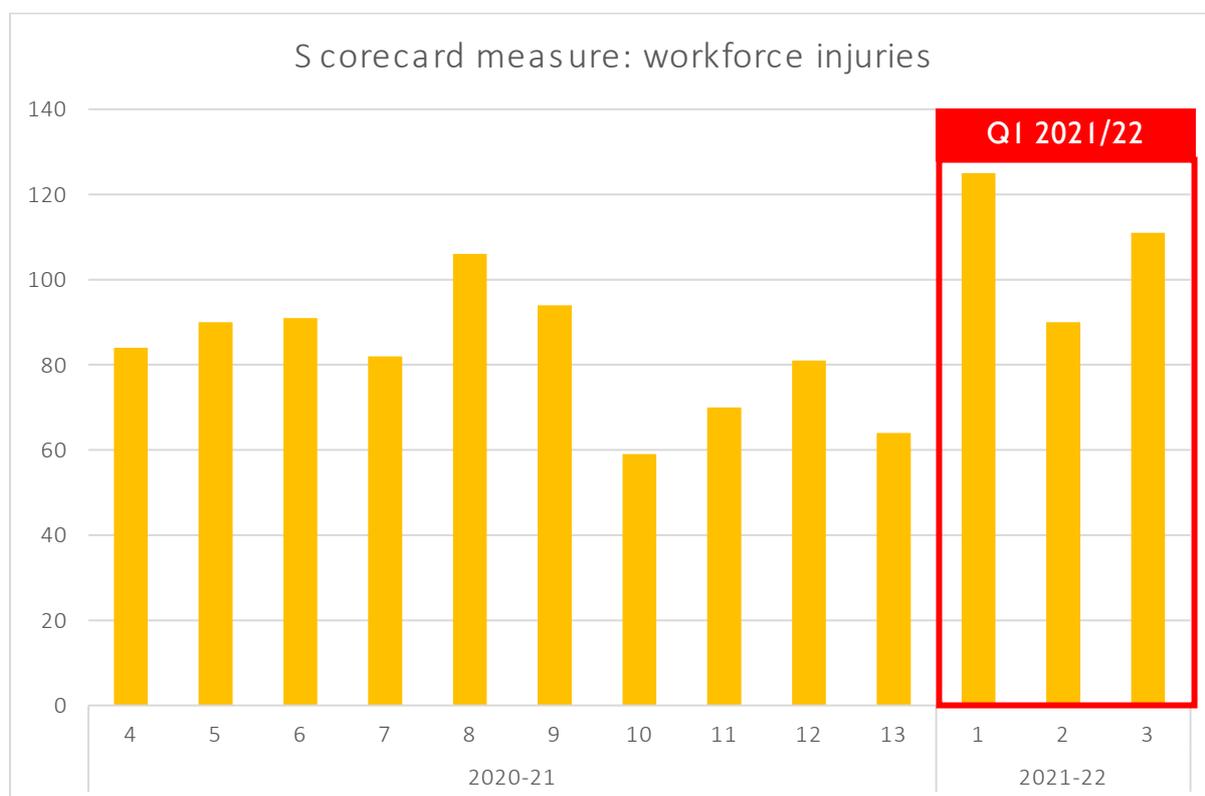
More customers returned to our network again during Quarter 1, with a wider variety of reasons for travel, as sectors of the economy reopened in line with the government's roadmap out of lockdown. Looking at causes, slip, trip and fall related injuries were the top cause of injury. It is too early to say why the injury rate has increased, but common causal factors for slips, trips and falls include customers travelling with bags or luggage or travelling whilst intoxicated.

## Workforce injuries



Focusing on our workforce, there were no fatalities on the public transport network during the Quarter. Four members of our public transport workforce were seriously injured in Quarter 1. Two occurred on Buses and two on London Underground.

## Scorecard measure: Workforce injuries



We want 'Everyone home safe and healthy every day', which is why any injury, however minor, is one too many. There were more workforce injuries during Quarter 1 than in each of the previous three Quarters.

Slips, trips and falls are usually the most common cause of injury to our public transport workforce. However, the number of slips, trips and falls decreased this Quarter in comparison to the preceding Quarter, possibly reflecting seasonal variation in weather conditions. This decline meant that assaults were the most common cause of workforce injury for public transport during Quarter 1. The peak in period 1 (April) of 2021/22 can be partially attributed to a spike in assaults directed towards our workforce.

Workforce injuries includes incidents where violence against our workforce resulted in injury; however not all workplace violence and aggression results in injury. Any incident that results in workplace violence and/or aggression against our workforce will not be tolerated. We have clearly communicated this message in our customer communications which outline the consequences of assaulting our people. Please refer to the work-related violence and aggression section for a more complete picture.

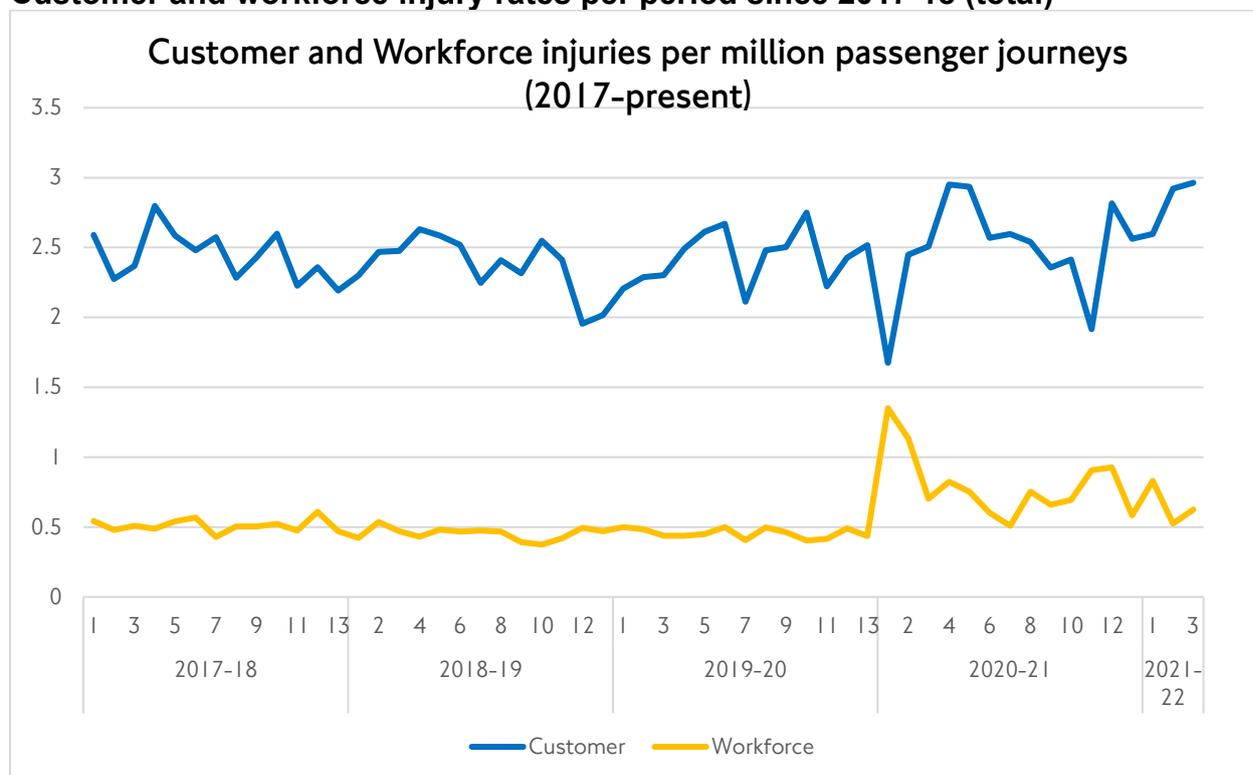
## Long term trend

### Customer and workforce injury numbers per period since 2017-18 (total)



This Quarter had the highest number of injuries since the beginning of 2020/21 and the start of the pandemic. This was primarily driven by an increase in customer injuries. Total injuries remain well below pre-pandemic levels.

## Customer and workforce injury rates per period since 2017-18 (total)



Our customer injury rate (injuries per million passenger journeys) has been relatively high this Quarter, demonstrating that the growth in passenger numbers has been slightly outweighed by a larger proportional growth in injuries. In the context of the last few years, this is slightly higher than pre-pandemic, however both customer and workforce injury rates are affected by passenger numbers which have fluctuated during the pandemic.

## Public transport safety update

### Bus Safety Standard

This Quarter, the number of buses in the London fleet meeting the Bus Safety Standard passed the 500-mark. These vehicles have been fitted with the latest safety technology, including intelligent speed assistance and improved design features which can help avoid or reduce casualties on the bus network. The standard has also been toughened so buses entering service from later this year will be required to feature second-generation technology like camera monitoring systems in place of side mirrors, offering a wider field of view and clearer visibility in low light.

Other new requirements include toggling to help drivers identify the brake pedal and its relative position from their feet, and new brake system safeguards to prevent buses rolling away without a driver in the cab.

The standard will be further toughened in 2024, as we continue to strive towards eliminating all deaths and serious injuries from London's roads by 2041. Of the buses that meet the first and some of the second generation of the safety standard, over 350 are equipped with the Acoustic Vehicle Alerting System (AVAS) to alert vulnerable road users to much quieter buses such as battery-powered electric vehicles. Our AVAS system will automatically adjust its volume to be heard over noisier city sounds and be less intrusive in quieter suburban districts.

Work continues to reduce customer slips, trips, and falls on buses, which remains one of the top injury types. In the short term, we are trialling posters on stairways and new announcements to encourage passengers to hold on to rails and poles inside the buses. We have also reissued guidance to drivers reminding them to give customers enough time to settle on board after calling at a bus stop. A longer-term strategy is being developed to continue this work and will consider vehicle improvements, such as to flooring and lighting, and outcomes from predictive technology being trialled that warns a driver of hazards to help ensure they have enough time to brake smoothly. We are also reviewing research, evidence and best practice from other transport authorities around the world.

## **London Underground fire safety**

In May 2020, we launched a Fire Safety Programme which continues to go from strength to strength, as it passed its first anniversary.

Since its launch, the programme has:

- defined London Underground's (LU) fire safety framework, including putting a new Fire Safety governance structure in place;
- introduced a new approach to Fire Risk Assessments across all of LU. Each LU station has a Fire Risk Assessment in place and by March 2022, all LU buildings will have a Fire Risk Assessment;
- introduced and delivered a new rolling 3-year assurance programme
- improved our approach to monitoring our fire safety, by digitalising fire checks, familiarisation and evacuation data on stations;
- provided periodic reports on our key fire safety indicators to the LU Executive (LUX), along with a summary of progress and any emerging risks;
- ensured that we have a clear 25-year fire asset strategy;

- defined our fire safety accountabilities from LUX to our frontline teams, including launching a new Responsible Persons training course for all local managers.

LU has more than 1,000 buildings and we are ensuring each of these buildings is part of a rolling programme of inspections that specifically reviews fire safety. Despite the financial impact of the pandemic, we have ensured this programme continues with pace and action is taken to deliver the recommended improvements.

We have refreshed the fire safety training to our teams including making use of technology solutions so all of our managers have been involved in refresher fire safety training. Working together, the Fire Safety Programme team and our Technology and Data team have created innovative solutions to monitor our fire safety data, including the use of apps and newly available reporting systems. Our fire safety data can now be visualised in real time which enables us to respond quickly to any fire safety concerns identified by our fire engineering experts.

We continue to share the progress of this programme with the London Fire Brigade which offers us the opportunity to hear their views on our approach and adapt our plans based on their advice.

### **Safe track access**

Working on the track environment is an area of potentially significant high risk. There have been a number of tragic incidents on the mainline railway network, including at Margam in July 2019 where two Network Rail track workers died, and near Surbiton in February 2021 where a railway worker died.

While the risks for TfL employees differ from Network Rail employees, we want to improve how our workforce access the track environment to ensure it is done in the safest possible way. Our Safe Track Programme has been established to deliver safety improvements which will make it safer for those accessing our track environment during engineering hours and ensure that no one is killed or seriously injured. This will be achieved through process improvement, cultural change, underpinned by a behavioural led change programme and the building of new infrastructure and technology to reduce the main risks when accessing the track. The importance of this work was emphasised by a number of incidents during the Quarter where our workforce were put in a position where they inadvertently accessed our track where the traction current was still live. All of these incidents are subjected to investigations which are then peer reviewed by the Safe Track Access working group to ensure the investigations have addressed the root causes and appropriate corrective and preventative action has been recommended.

As part of our improvement campaign, we started to install new, permanent, signs at key locations on the LU track in June 2021. The signs show areas of live current and clarify local track layouts in complex areas to help those accessing the track environment to understand key areas of risk. We will continue with our programme to develop and commission technology which will give our workforce who access the track live information before they access the track environment.

We reviewed the key learnings from the RAIB report into the tragedy at Margam, which was published in November 2020, and have shared that knowledge with all relevant teams internally as part of the ongoing conversation we are having around safety in the workplace. We have also identified a number of opportunities for us to improve our systems and approach. These have been incorporated into the Safe Track Access programme.

In Quarter 2, our focus on improving the safety culture will increase, with activities planned about engaging our front line teams and improving our approach to the investigation of high potential safe track access incidents.

### **Suicide prevention programme**

Year-on-year data comparison tells us that since 2018, our Suicide Prevention Programme has helped reduce the number of suicides by 44 per cent across the network. This represents the lowest number of suicides in a decade, equal to our previous low in 2014/15. We have trained 88 per cent of station staff in suicide prevention so far. Over the last few years, we have made more than 1,000 life-saving interventions at our stations. It is a reminder that, while vulnerable people still view our network both as a means of ending their life, they also see it as a place where they can find a friendly face and support when they have lost hope.

### **Capital delivery**

While lockdown restrictions eased during Quarter 1, our capital delivery activities continued under the Covid-secure conditions that have been fundamental to the safety of our workforce over the past year. Visits to site continued to be risk-based and, where possible, were conducted virtually. Our site-based workforce were supported with regular communications linked to the safety and wellbeing of our people and our response to Covid-19, whilst core assurance activities continued to be delivered throughout this period.

Our workforce completed 3 million hours delivering our capital projects during the Quarter. Over the past few periods, hours worked have remained relatively stable

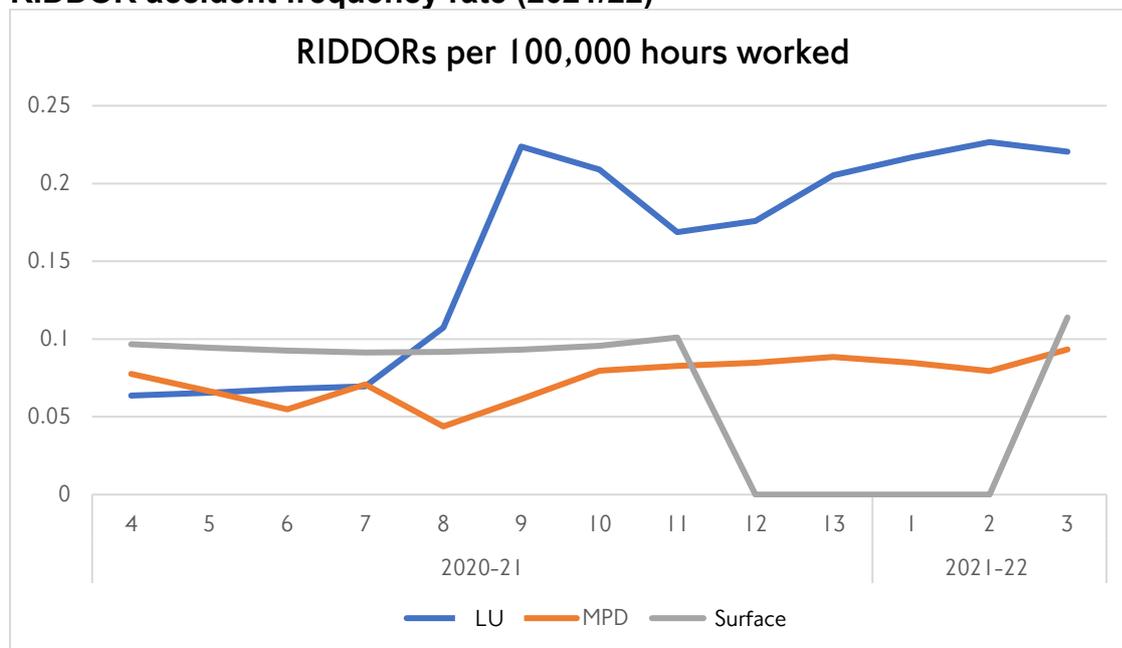
but are double the hours worked during Quarter 1 of 2020/21. This is because in March 2020, most of the activity at our construction sites came to a controlled stop. The return to work on our sites was done in a planned and controlled way, from May 2020 onwards. This reflects the hard work that has gone into making sure our sites can operate safely during the pandemic.

As we progress from the ‘recover’ to the ‘rebuild’ stage, we will continue to review our processes in line with the latest Government guidance and research and wider sector good practices.

The pandemic required us to approach construction work differently to reduce risks to our workforce and supply chain. This led to innovations in the phasing of activities, the way our sites are established and ran and the way we construct. These changes to our ways of working have had positive safety, health and environment benefits beyond reducing the spread of the pandemic. Consequently, we are reviewing what can be incorporated into ‘business as usual’ to continue these improvements to our construction processes.

## Quarterly performance

### RIDDOR accident frequency rate (2021/22)

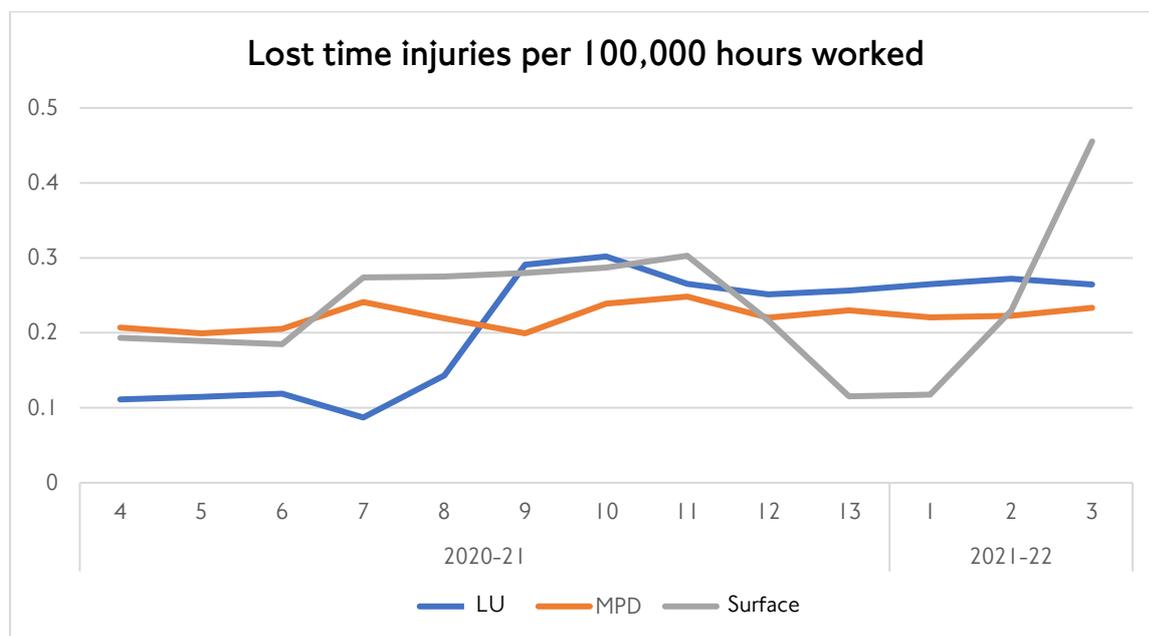


In Quarter 1, there were four accidents reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) in our capital delivery

teams. Two of these were in London Underground Asset Performance & Capital Delivery (APCD), one in the Major Projects Directorate (MPD) and one in our Surface Transport Project & Programme Delivery (PPD). Despite an increase of one RIDDOR on the previous Quarter, rates remain stable and both MPD and PPD are within the target thresholds of 0.12 and 0.15 respectively.

Slips, trips and falls remain the most prominent immediate cause of RIDDOR reportable accidents across our Capital Delivery teams. Recent investigations highlight the importance of ensuring appropriate procedures and safe systems of work are in place and that crucially these are followed and enforced on our sites to mitigate the risk of injury. Following each investigation, the key learnings are shared across all TfL Capital Delivery activities to help address this.

### Lost time injury frequency rate

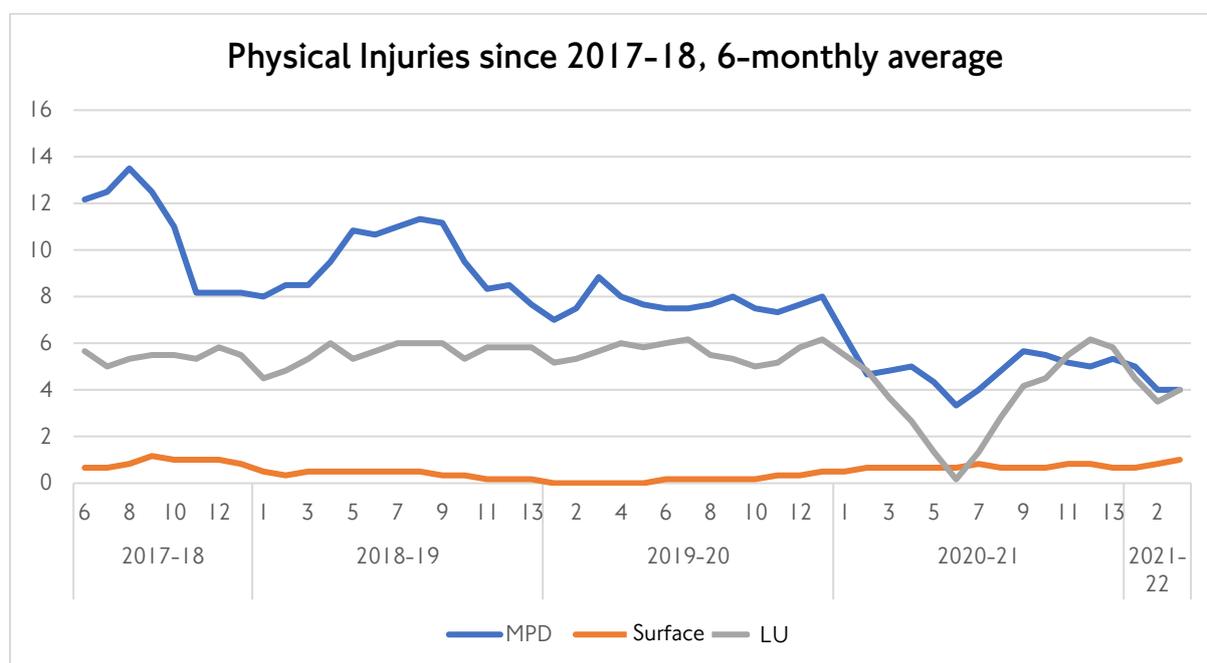


Lost time injuries (LTIs) are injuries which cause an employee to be absent for one or more shifts, reflecting the loss of productive work time. There were seven LTIs in our capital delivery teams during Quarter 1, a reduction compared to the previous Quarter. LTI rates in MPD and AP&CD remain relatively stable and just above the target threshold of 0.2. The LTI rate in PPD rose following two contractor incidents in period 3. Slips, trips and falls, manual handling and non-compliance with the Health

& Safety Executive rules were the top immediate causes of LTIs, with inadequate application of procedures again a prominent root cause.

## Long term trend

### Total capital delivery workforce injuries (since 2017/18)



There were 24 injuries during Quarter 1, down from the previous Quarter. While this is an increase compared to the injuries sustained in Quarter 1 of 2020/21, last year's Quarter occurred during the Safe Stop of construction activity which means there has been significantly more time spent on site so far this year with over 3 million hours worked.

The most common cause of injuries were slips, trips and falls and manual handling. All injuries are investigated by the teams and suppliers involved to establish root causes and put in place mitigations to help prevent re-occurrence. Where identified, lessons from local investigations are shared across TfL Capital Delivery and, where appropriate, across the wider industry. In keeping with our risk-based approach, we will always ensure the level of investigation is proportionate to the potential for harm to be caused.

Injuries across our capital delivery activities remain well below pre-pandemic levels and continue the overall trend of decline since 2017-18. Over the next few periods, as we transition towards a 'new normal', we will work to ensure learnings from the pandemic are incorporated into business as usual to help us continue on the trajectory to zero harm.

The prevalence of Covid-19 is still being monitored closely, to ensure effectiveness of control measures and impacts for both health effects and delivery of work. A dedicated Capital Covid Management Group (CMG) meets weekly to assess rates, the effectiveness of controls we have in place and to develop business wide guidance. In April 2021, the Surface Transport site at Old Street recorded 18 Covid-19 cases. Our principal contractor worked with Public Health England to review the on-site control measures, which were found to be satisfactory.

## **Capital delivery updates**

While the data presented above provides a degree of trending on key indicators, it is often the individual incidents and near misses which provide examples of high potential for harm, and the need to learn them.

The Four Lines Modernisation Programme within the Major Projects Directorate (MPD) had a high potential near miss during testing of the new signalling system in May 2021, in a section of London Underground (LU) that was closed to the public for the weekend. An engineering locomotive travelled through two red signals in a situation where the driver believed they had been given authorisation to do so. Fortunately, there was no adverse outcome, but the Office of Rail and Road has been advised of this, and an internal TfL Formal Investigation Report is taking place. Interim measures have already been put in place to avoid a similar occurrence, and the full outcome of the investigation will make detailed recommendations.

The Northern Line Extension programme is also taking note of the findings from an incident on 11 June 2021 where a worker mistakenly cut a live electrical cable supply cable to streetlighting at Kennington Park, rather than two redundant cables. Fortunately, there was no injury, but lessons to be learned include the need for clarity of communication, and the importance of adequate supervision where required.

## **Local initiatives**

Improvement activities have been held throughout Quarter 1. The newly formed London Underground Asset Performance and Capital Delivery (AP&CD) team held a

joint TfL and supplier forum in May 2021 to focus on how to improve the management of risks from falls from height. This was organised following a number of incidents within the LU capital programme portfolio.

Within MPD, the Bank Station Capacity Upgrade project achieved the internally awarded “Beacon” status. The award marks a high standard in health, environment, safety and behaviours and is a credit to all those who work there - a team effort.

Also in MPD, the Quarter 1 improvement strategy for safety, health and environment was based on a “Consistent Approach”. An incredible variety of topics were covered during several virtual presentations, to enable us to better manage our projects. This included design, quality management, risk assessment, management system items and carbon.

In May 2021, we launched our Capital Delivery & Maintenance (CD&M) Strategy. This is a five-year strategy which aims to reduce harm and environmental impact, whilst driving efficiency and reducing the risk to our reputation and performance. To do this, we will work with our staff, contractors, sub-contractors and suppliers to create clear, consistent processes, as well as to share information and knowledge to facilitate interventions and build confidence through targeted, risk-based assurance.

As an organisation, we are using this unique opportunity to influence across the construction industry. Whether directly through our own suppliers, local boroughs and partner organisations, or indirectly via the stakeholders they work with.

## **Future plans**

Risk-based improvement plans for TfL Capital Delivery have been established in Quarter 1. Asset Performance & Capital Delivery (APCD), the Major Projects Directorate (MPD) and Project & Programme Delivery (PPD) have aligned these plans to our CD&M Strategy. Over the next Quarter, detailed implementation plans will be developed for our improvement plans and wider themes under the new strategy.

## **Work-related violence and aggression**

Work-related violence and aggression (WVA) towards our people and those of our operators and contractors is unacceptable. Concerted action is underway to tackle it.

We are changing the way that we report WVA information to the SSHRP to provide:

1. Greater insight into WVA, bringing together incident and crime data from TfL and police systems
2. Update on key performance indicators that support delivery of WVA strategy
3. Highlights of successful prosecutions
4. Progress updates against the 2021/22 action plan

### **Triggers of WVA incidents**

Fare evasion remains a key trigger of WVA, responsible for 32 per cent of all WVA incidents this quarter, an increase of 6 per cent. There are strong links between fare evasion and incidents involving young people and repeat (recidivist) offenders.

WVA triggers with an increasing impact this quarter include road rage (which now accounts for 14 per cent of all WVA directed at bus drivers) and customers attempting to bring non-folding bicycles or using scooters (including e-scooters) into an LU station (6.7 per cent of all reports during Quarter 1 on LU). We have seen a sharp reduction in the amount of WVA triggered by face covering non-compliance on the surface transport network, with incidents falling by 47 per cent between Quarter 4 2020/21 and Quarter 1 2021/22 with it now accounting for around 3.6 per cent of all reported incidents.

### **Overview of risk and harm**

As part of the WVA strategy, we have improved the way we analyse incident data from across TfL, our operators and police partners to better understand the scale and nature of WVA incidents.

This change in the way we analyse data from different data sets was introduced in January 2020. As a result, we are unable to compare levels and trends before this date.

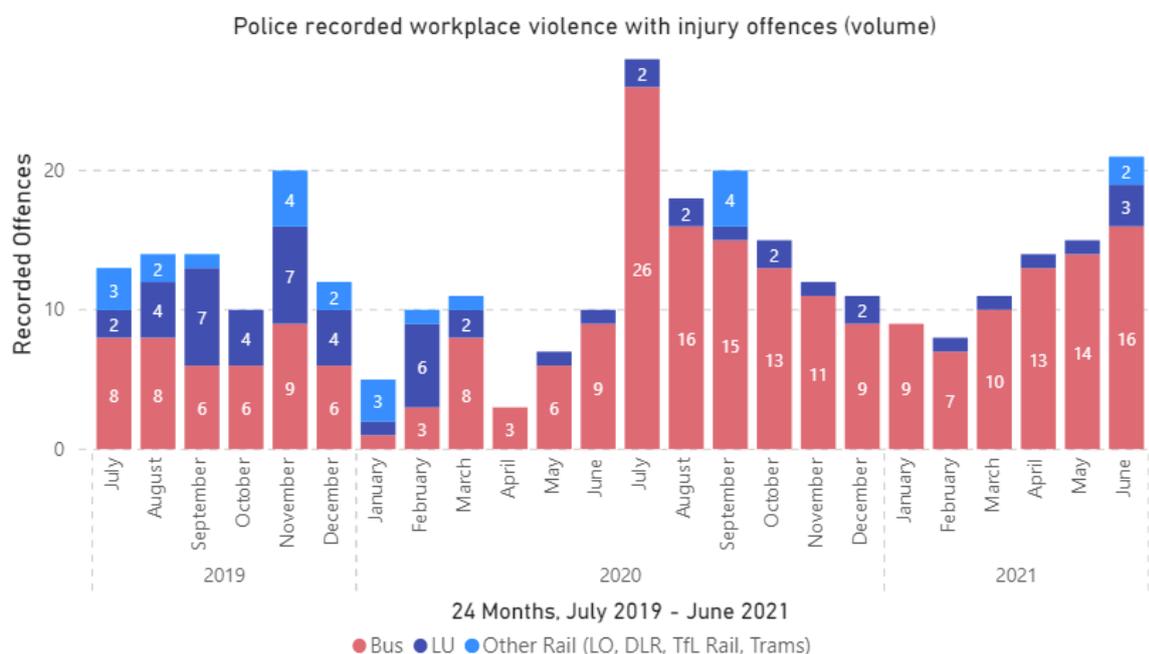
The following analysis compares data from different Quarters in 2020/21 and 2021/22 which cover the entire period. Due to the effect that reduced customer numbers had on workplace violence and aggression incidents, drawing comparisons and conclusions between the sets of data is difficult.

### **Volume of incidents in Quarter 1**

In Quarter 1 2021/22, there were 873 incidents of WVA on the London Underground (LU) network. This is a 47 per cent increase compared to the previous Quarter (279 additional incidents).

In Quarter 1 2021/22, there were 1179 incidents of WVA on Surface Transport networks (including Buses, on-street, London Overground (LO), Docklands Light Railway (DLR), TfL Rail and Trams). There was an 8 per cent increase (91 additional incidents).

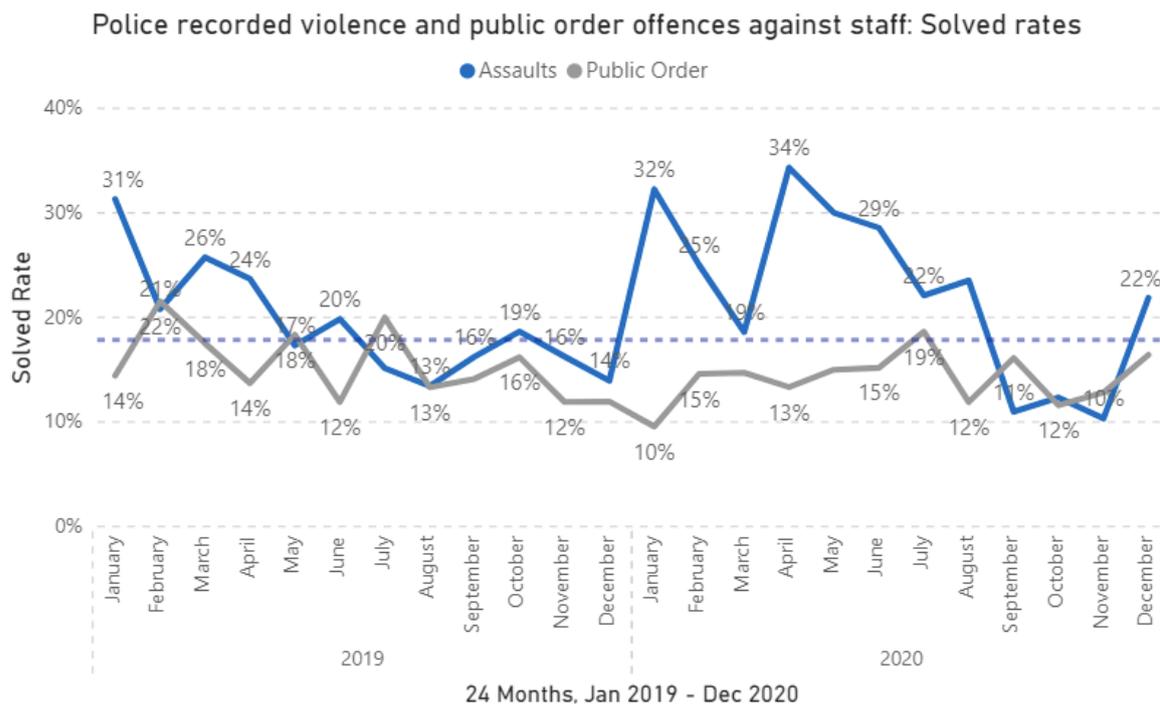
## Police recorded workplace violence with injury offence



We know from feedback from our workforce and our trade unions that WVA is underreported, in particular verbal abuse. Changes in the reporting of incidents, compounded by the impact on Covid-19 on overall crime levels, makes it difficult to draw clear conclusions about trends in offending. Our assumption is that violent offences that result in injury (actual bodily harm or grievous bodily harm) are more likely to be reported given that the staff member may require support, treatment or time off. Police data for violence with injury offences is a more reliable data source for monitoring trends.

The level of bus violence with injury offences was higher in Quarter 1 of 2021/22 compared with the same period in 2020/21 (43 offences compared with 32). Thirty-six per cent of physical assaults, including spitting, (and reported to the police) are linked to road rage. Levels were lower in 2020/21 because of lockdown (10 offences in Quarter 1 2020/21 compared to 21 offences in Quarter 1 2021/22). This contrasts with LU and other rail modes (LO, DLR, TfL Rail and Trams) where in Quarter 1 of 2021/22, there were seven offences compared with 17 in 2019/20. The lower results on the rail network reflect the lower levels of passenger journeys.

## Solved rate for WVA offences investigated by the police



We are working closely with the police to improve the solved rate of offences. This includes prioritising the investigation of WVA incidents, rollout of body-worn cameras and continuing to support police investigations by providing oyster card information and CCTV.

The solved rate is the percentage of offences being investigated by the police that have resulted in action against the suspect e.g. charged with the offence, summonsed to attend court or a restorative justice outcome. Figures are reported 6 months in arrears to allow time for the police investigation to conclude and for cases to progress through the criminal justice process. This section therefore focuses on Quarter 3 20/21 (20 September 2020 – 12 December 2020).

During Quarter 3 2020/21 the solved rate was 14 per cent for violence and public order recorded offences against our workforce; this is 1 percentage point lower than Quarter 3 2019/20 (14 per cent compared to 15 per cent) and 33 percentage points lower than Quarter 2 2020/21 (14 per cent compared to 17 per cent).

The solved rate varied by mode during Quarter 3, with a solved rate of 6 per cent for bus related offences, 23 per cent for LU, and 15 per cent for other rail modes. Across all modes, the solved rates increase in line with severity of incident. The solved rate is higher for violent offences (with or without injury) compared to public order (e.g. verbal abuse) as the police will allocate more resource to identifying and apprehending offenders e.g. media appeals for information for violent incidents. The solved rate in the last 12 months for violence offences was 22 per cent compared with 14 per cent for public order offences.

### Staff willingness to support police investigation of violence and public order offences against them



A key factor in being able to bring offenders to justice is staff support for and consent to partake in the criminal justice process. As part of our strategy, we are working closely with the police to address staff concerns and improve the support that we collectively provide to them throughout the process.

Figures are reported 6 months in arrears to allow time for the police investigation to conclude and for cases to progress through the criminal justice process. This section therefore focuses on Quarter 3 2020/21 (20 September 2020 – 12 December 2020).

During Quarter 3 2020/21, the percentage of staff willing to support a police investigation was 65 per cent for violence and public order recorded offences against staff. Support was at 73 per cent in Quarter 3 2019/20, and 70 per cent in Quarter 2 2020/21.

### **Progress against 2021/22 annual action plan**

Future Safety, Sustainability & HR Panel (SSHRP) reports will include updates against actions within the annual action plan. The plan was approved by the SSHRP on 30 June 2021, and updates were provided at the time.

### **Prosecutions on buses**

#### 30/04/2021 - Criminal Damage – Bus Route N3

A man was behaving in a disorderly manner and causing a nuisance to other customers. The driver played the suitable pre-recorded messages and then addressed him via the microphone. The customer then became aggressive and spat at the bus driver. When the police attended, he spat at them too. He was sentenced to 18 weeks imprisonment, a rehabilitation order and to pay compensation of £100.

#### 04/05/2021 – Racial Public Order, Indecent exposure, criminal damage – Bus route 29

A man, believed to be intoxicated, was observed behaving in a disorderly manner and exposing himself on the bus. Distressed customers reported it to the driver who intervened. The customer became extremely aggressive and started shouting racial abuse at the driver and hitting and shattering the cab screen. He spat at the driver before attempting to run away. He was sentenced to a rehabilitation order, community order and to pay a victim surcharge of £95.

#### 28/05/2021 – Common Assault – Bus Route 343

A man was challenged when he tried to board the bus without wearing a face covering and without a valid ticket. He became very aggressive towards the driver. He openly threatened him and spat at him before getting off. He was identified using DNA collected via the spit-kit. He was sentenced to a community order, curfew requirement with electronic tagging and to pay compensation of £100.

### **Prosecutions on London Underground (LU)**

#### 30/04/2021– Common Assault – St John’s Wood LU station

A man, believed to be intoxicated, was hitting a train, causing distress to others and delays to the service. When LU staff intervened and escorted him out, he became very aggressive and the police were called. Before being apprehended he kicked a member of LU staff. He was charged with Common Assault and sentenced to 8 weeks imprisonment, alcohol treatment, rehabilitation activities and to pay compensation of £60.

#### 11/05/2021 – Common Assault – Fulham Broadway LU station

A woman was pushing the gates and abusing other customers demanding to be let through. The woman spat at a LU member of staff when they approached to offer assistance and explain that she could not travel without a valid ticket. DNA and CCTV footage identified the suspect who was sentenced to 12 weeks in prison, 3 months curfew, requirement to comply with rehabilitation activities and to pay compensation of £200.

#### 24/05/2021 – Common Assault – Camden Town LU station

A man was lying on the platform. When a LU member of staff approached him to check on his welfare and to explain he could not sleep at the station, he became very aggressive, both verbally and physically. He struck the staff member on the head. He was arrested and sentenced to comply with rehabilitation activities and to pay a victim compensation of £50.

#### 26/05/2021 - Common Assault and Public Order – Piccadilly Circus LU station

A man who was being abusive to other customers and was trying to force his way through the gates, became very aggressive when approached by a LU member of staff. He threatened “I will shoot you in your head”, while grabbing equipment and personal possessions from them and pushing them violently. He was arrested and sentenced to a total of 22 weeks imprisonment and to pay a surcharge of £128.

#### 02/06/2021 – Common Assault, Outrage to Public Decency, Public Order – Rayners Lane LU station

A man who was found asleep in a train carriage became very aggressive when woken up and asked to leave by LU staff. As he exited the station, he exposed himself to members of the public. He was arrested and sentenced to 12 weeks in prison, to pay a total of £678 in compensation, surcharge and costs.

#### 10/06/2021 – Common Assault – Kilburn LU station

A group of people were waiting on the platform after the last train had departed. LU staff informed them they had missed the train and advised on the best way to reach

their destination by bus. One man become verbally abusive and spat at LU staff before leaving the scene laughing. He was identified through DNA and CCTV footage and was sentenced to 4 weeks in prison and to pay a total of £678 in compensation, surcharge and costs.

#### 16/06/2021 – Common Assault – Tottenham Court Road LU station

A woman, who appeared to be intoxicated, was having issues with her Oyster card at the ticket barriers. When LU staff tried to offer help, the woman shouted abuse, pressing her body against theirs while not wearing a face covering. She kicked and punched the member of staff. The woman was sentenced to 12 weeks in prison, 6 weeks of curfew and ordered to pay a total of £463 in compensation, surcharge and costs.

#### **Face covering enforcement**

During Quarter 1, our enforcement officers continued to enforce the mandatory wearing of face coverings on all public transport modes (unless exempt), using powers under the Health Protection (Coronavirus, Wearing of Face Coverings on Public Transport) (England) Regulations 2020. Face coverings have continued to be a condition of carriage to use our services after the 19 July 2021, when Government restrictions were eased.

Customer compliance remained very high in general, particularly during peak travel times. Customer research findings show that 90 per cent of customers say they are wearing a face covering at all times while using our transport services. Of those not wearing a face covering more than half claim to have an exemption or valid reason for not complying.

## **Significant incidents**

This section outlines significant incidents that have occurred during Quarter 1 and since the last report. It also provides an update to significant incidents of note.

### **Significant London Underground incidents**

#### **Ongoing investigations into Christian Tuvi's accident at Waterloo station**

The British Transport Police (BTP) continues to investigate this incident which occurred on 18 September 2019. The Office of Rail and Road (ORR) is in discussion about the next stage of the investigation with the BTP. The inquest is adjourned pending the outcome of the investigations by BTP and the ORR.

#### **Accidental customer fatality at Waterloo station**

The ORR and the Rail Accident Investigation Branch (RAIB) continue to investigate this incident, which occurred on 26 May 2020. The RAIB shared its draft report and recommendations with TfL on 1 July 2020. TfL has sent detailed comments on the draft report to the RAIB.

London Underground (LU) continues to provide regular updates to the ORR on actions we have taken in response to the incident and in response to the Improvement Notice. The ORR confirmed it closed the Improvement Notice in December 2020. Updates were sent to the ORR in February and April 2021. An update was sent to the ORR in August 2021.

The Pre-Inquest Review (PIR) hearing concerning the customer's death was held on 22 June 2021. TfL is an Interested Person in the inquest. There will be another PIR hearing on 20 September 2021. It is expected that the RAIB report will be published shortly and will inform the Coroner's views as to the handling of the inquest.

#### **Chiltern Railways signal passed at danger on the Metropolitan line**

The RAIB's investigation into this incident, which occurred on 21 June 2020, has been published. The ORR is contributing to and learning from the RAIB investigation. We have provided information to both RAIB and ORR when requested.

We completed a network wide review to consider our approach where LU operates on Network Rail Infrastructure and conversely, where other train operating companies and freight operating companies operate on LU infrastructure in April 2021. This review identified actions to improve our understanding of safety risks associated with these interfaces, actions relating to assurance with other parties and communications between LU and Network Rail and other train operating companies. We are now delivering these improvements which will further improve safety for our customers.

### **Hammersmith signalling control centre – Uninterrupted Power Supply Failure**

On 22 December 2020, the Uninterrupted Power Supply (UPS) failed during service, resulting in line suspensions on the sub surface network (the Circle, District, Metropolitan and Hammersmith & City lines). A Formal Investigation Report (FIR) has been commissioned into the circumstances which led to this incident.

## **Significant incidents on the Surface transport network**

### **Sandilands tram derailment: Update**

On 9 November 2016, Dane Chinnery, Donald Collett, Robert Huxley, Philip Logan, Dorota Rynkiewicz, Philip Seary and Mark Smith died when a tram derailed and overturned on a curve as it approached Sandilands junction in Croydon. The RAIB investigated the incident, as well as the BTP and the ORR. The RAIB issued its report in 2017 and updated it in 2018. The report made 15 recommendations to TfL as well as the wider tram industry. All of those which were directed at TfL and the Croydon tram network have been implemented.

The Sandilands Inquests into the tragic deaths of those seven passengers began on 17 May 2021 and concluded on 22 July 2021.

The jury gave a short form conclusion of accident, and the narrative as to the contributing factors of the Sandilands accident were:

- a) In relation to Tram Operations Limited (TOL), it failed to sufficiently identify the risk of the tram overturning and crashing at the tight Sandilands curve at high speed with the probability of fatalities; TOL identified the importance of line of sight driving and route knowledge but failed to identify additional measures to mitigate risk; the lack of a “just culture” which discouraged drivers from reporting health and safety concerns.

- b) In relation to the driver, the driver lost awareness and became disorientated ahead of the Sandilands curve probably due to a micro sleep. Following this the driver failed to hit the breaking point by which time the tram was travelling too fast to negotiate the Sandilands curve. The result was a high-speed derailment, the tram overturning and seven fatalities.

The Senior Coroner heard evidence about Prevention of Future Deaths (PFD) matters and received written submissions and will decide whether to issue a PFD report shortly.

TfL assisted the Senior Coroner throughout the Inquests. Mark Davis, General Manager of London Trams, was in attendance every day of the Inquests. This demonstrated our commitment to ensure that we learn lessons for the future to ensure nothing like this accident happens again, as well as provided confidence that any further action to continuously improve safety will be taken.

Since the conclusion of the Inquests, five of the families of those who lost their lives have written to the Attorney General (AG) to request that he considers using his powers under section 13 of the Coroner's Act 1988 to apply to the High Court for an order seeking fresh inquests. The Senior Coroner has been asked by the AG to provide submissions. At this stage, TfL has not made submissions to the AG.

Those who lost their lives, their family and friends, and all others affected by this incident remain in our thoughts and we continue to offer support to those people directly affected as well as the wider community.

### **Issues identified with TXe model taxi**

In January 2021, we became aware of an incident with a glass panoramic roof of a London taxi becoming detached while the vehicle was in motion. This was a TXe model taxi which is manufactured by the London Electric Vehicles Company (LEVC). There were no reported injuries as a result of the incident but as the regulator of London taxis, we were concerned that this issue had occurred and immediately discussed the matter with LEVC who embarked on a safety check programme for all TXe vehicles.

While these safety checks were underway, unfortunately a second incident of the same nature occurred in April 2021 where a glass panoramic roof detached from a TXe vehicle while the vehicle was in motion. Again there were no reported injuries as a result of this incident and further investigation revealed that this vehicle had

undergone a safety check at an LEVC dealership, but the vehicle owner had declined the remedial works at the time.

Measures were put in place with LEVC to ensure no further vehicle owners could decline having the remedial works carried out immediately should a failure be identified.

There were 3,711 London licensed taxis affected. LEVC has now checked all affected licensed vehicles and has undertaken repairs on any taxis where the fault was identified.

### **Passenger fall from a slow-moving bus**

On 8 May 2021 at 21:35, a route 432 bus in Croydon was stationary in traffic behind other vehicles at traffic lights. A female customer with two young children, used the emergency centre door release button to open the bus doors. The first child alighted onto the pavement. At this point the driver checked the internal mirror and immediately closed the doors to proceed as the traffic ahead had moved.

As the bus moved off, the female customer pressed the emergency door release again, and the doors reopened whilst the bus was in motion (moving at approximately 3mph). The female customer and the second child then fell from the bus as they attempted to alight. The rear nearside wheel ran over the female customer's leg resulting in an open fracture. Emergency services attended and the female customer was conveyed to hospital and the children are not thought to have been physically injured in the incident.

By design, there is a tolerance built into the door systems which means they can be opened when the bus is travelling below 5mph (8km/h). Above this speed a solenoid will activate which prevents the air being released so the doors will not open. The incident is currently under investigation.

### **London River Services: Tower Millennium Pier – Near Miss**

On 12 June 2021 on Tower Millennium Pier, a serious near miss occurred involving a Thames Clipper vessel. The vessel was tied to a bollard smaller than those designed and in place for the large Thames Clipper vessel. The bollard broke away from its fixing, hitting the side of the vessel.

No injuries or significant infrastructure damage was sustained. Due to the significance of the incident and, as this was a breach of their safe operating procedures, Thames Clippers suspended their vessel skipper and commenced their own investigation which will be shared with TfL's London River Services (LRS).

As a precautionary interim measure, TfL is undertaking its own inspections of all bollards and infrastructure around the pier, with the Asset Operations team asked to investigate more rigorous testing of the bollards.

On 25 June, a Formal Investigation Report (FIR) was commissioned to establish the root cause of the incident. The FIR also needed to determine whether the asset maintenance regime is appropriate and understand the maintenance regime and appropriateness for assets on TfL infrastructure but not belonging to TfL. This investigation is set to conclude shortly.

### **Member of the public injured following a shattered glass panel falling from height**

At around 11:30am on Tuesday 20 July 2021, a glazed roof panel at Canning Town bus station (roughly 1m by 2m, at a height of approx. 5m) spontaneously shattered, showering a passing member of the public with fragments of glass. The male (aged approximately 60) sustained numerous lacerations and was bleeding heavily, subsequently going into shock. LAS, fire brigade and police attended site, and the injured person was taken to hospital for treatment where his condition improved. The bus station was closed, and the area was treated as a crime scene and made safe while police conducted their investigations. The site was subsequently handed back once criminal intent was ruled out.

The incident site has been secured to preserve evidence and initial visual inspections undertaken to check for obvious causes of failure, and to check the integrity of surrounding glazed panels. Dynamic risk assessment of similar glazing panels in the vicinity enabled egress to the London Underground part of the station to reopen. The internal portion of the bus station remains closed as it is not operationally critical, and plans have been implemented to enable the safe reopening of the outside portion of the bus station and create safe walking routes using Streetspace measures. While no faults have been identified, a glazing specialist who was involved previously following a similar investigation at Canada Water, has been engaged to establish the circumstances leading up to the sudden failure.

TfL is providing support to the injured party and identifying further locations with similar glazed panels. The incident has been reported to the Health and Safety Executive as required by RIDDOR. Work is underway for an appropriate level of internal investigation to be commissioned into the incident.

### **Holborn cyclist fatality**

On 4 August 2021, a collision occurred between an HGV driver and person cycling at the junction of Southampton Row and Theobalds Road. This tragically resulted in the death of the person cycling.

Since 2008, there have been seven deaths of people cycling in a 200m area around this location, with five involving an HGV (three occurring when the HGV was turning left), one involving a bus and one involving a coach. Urgent work is underway with the London borough of Camden to progress potential short term mitigations to the area while work progress on longer term safety solutions.

### **Victoria bus station fatality**

On 10 August, two route 507 buses collided, one hitting the other from behind, causing the one in front to move forward. In doing so, it collided with a pedestrian. One person tragically suffered fatal injuries. Another person and one of the bus drivers were also injured. An investigation is currently under way.

### **Passenger fall on stairs**

On 14 July 2021, as a route 65 bus pulled away from the bus stop, an older male who had reached the top of the stairwell lost hold of the handrail and fell down the stairs. The emergency services attended and conveyed the passenger to hospital. We were informed that he subsequently died in hospital a few weeks later. An investigation is underway.

### **Lessons learned: Ludgate Circus**

One lesson learned document was produced and shared in the last Quarter, this was in relation to a Formal Investigation Report completed last Quarter at Ludgate Circus - Incident at Traffic Signal Junction.

The incident occurred on 16 December 2019, due to changes that were implemented to a four-road junction to introduce an additional pedestrian phasing. These changes were made to enable people walking more opportunity to cross the road during the busiest times of the day and to address previous safety concerns from people walking.

Whilst on site, a member of the public approached one of the TfL representatives and reported the appearance of the Green Man at the same time as green traffic light on conflicting junction, leading to a near miss between a person walking and a

person cycling. The TfL Engineer immediately checked the situation and found Ludgate Hill pedestrian crossing illuminated at the same time as conflicting traffic from Ludgate Hill and Fleet Street.

The investigation found four main causal factors including: not terminating cables correctly and more focus by the team on the complex areas of the job. The formal investigation made three recommendations and had four observations to address the root causes (poor judgement, communication flaws and gaps in the process).

## **Significant incidents in Capital Delivery**

### **Four Lines Modernisation (4LM), High Potential signalling issue, Monument**

On 19 March 2021, an error was identified in the recently commissioned Communication Based Train Control (CBTC) system on the District line, westbound at Monument which meant that:

- A train operator could possibly engage legacy “tripcock mode” earlier than the westbound platform stopping location when heading westbound at Monument Underground station on the District line and thus remove any speed supervision and train protection prior to the station starter signal; and
- If a train, having selected tripcock mode correctly at the westbound platform, did pass the starter signal at danger (SPAD) and there was a train held at the next signal beyond it, there was a risk of collision.
- Action was taken to relocate the train-stop device associated with the signal so that the risk of collision was eliminated, and until this was done additional protection was also provided by positioning a hand signaller at Monument. Underlying causes with regard to the design and implementation of the new signalling system are subject to a Formal Investigation Review (FIR) which is taking place.

### **Formal investigation: Four Lines Modernisation (4LM), High Potential signalling issue, Monument**

A Formal investigation has been commissioned into the circumstances which led to errors within the Communication Based Train Control (CBTC) system.

Action was taken to relocate the train-stop device associated with the signal so that the risk of collision was eliminated, and until this was done additional protection was

also provided by positioning a hand signaller at Monument. Underlying causes with regard to the design and implementation of the new signalling system are subject to a Formal Investigation which is taking place, supported by a technical investigation. The ORR is aware of the near miss and await TfL's final report.

A separate technical investigation was commissioned by Thales and has fed into the TfL Formal Investigation. No formal action has yet been taken or indicated by the ORR.

Since this incident, the next signalling migration area, has been deployed safely and successfully onto the operating railway. (See significant incident section for more details).

#### **Four Lines Modernisation (4LM), Engineering Train Movement not in Accordance with the Published Process, Stamford Brook**

On 16 May 2021, during a 4LM CBTC test train possession within Signal Migration Area five, an Engineer Train entered the possession area via Stamford Brook station and did not follow the correct train entry process.

The train had cut out its trip cocks and proceeded directly from Stamford Brook station, past the possession protection signal that was at danger (displaying a red aspect) and on to Hammersmith station. At least one further legacy signal was passed at danger.

Details of this incident (and actions taken) have been provided in previous versions of this report.

#### **Formal investigation: Four Lines Modernisation (4LM), Engineering Train Movement not in Accordance with the Published Process, Stamford Brook**

A formal investigation is looking into a high potential incident reported during a Four Lines Modernisation Project (4LM) Communications Based Train Control (CBTC) test train operations possession in the Signal Migration Area five (SMA5) area. On 16 May 2021 the Engineers Train entered the possession via Stamford Brook and the correct train entry process had not been followed.

Since the previous version of this report an interim FIR report has been issued (28 June). This report has identified items for improvement as follows:

- Communications – timing & clarity;

- Documentation – errors & late submissions;
- Briefings – clarity.

The interim report has made five recommendations to ensure learning identified so far is embedded, improvements are driven, and a re-occurrence is prevented.

The London Underground team have identified an upcoming possession that shares similarities with the one being investigated and the 4LM team have similar possessions upcoming.

We have committed to review arrangements to ensure that both recommendations from the interim FIR have been applied and confirm that they are safe to continue with their upcoming possessions.

## **Engagement with regulators**

This section looks at how we have engaged with our regulators on safety issues over the past Quarter.

### **Engagement with the Environment Agency**

We report our progress on environmental issues to the Environment Agency. Polychlorinated biphenyls (PCBs) are substances that are toxic to humans and animals. There is legislation in England and Wales, as well as an international agreement, which bans their use. Some of the thousands of different types of electrical capacitor used in signalling, power, fleet, tunnel telephone systems on the London Underground (LU) predate this legislation and therefore sometimes contain PCBs. LU's programmes for identification, replacement and removal of components that may contain PCBs continued in Quarter 1.

### **Engagement with London Fire Brigade**

We meet the London Fire Brigade (LFB) every month to share progress of our Fire Safety Programme and to discuss any significant fire incidents in the previous months. These collaborative discussions have allowed us to share the detail of our fire risk assessment programme and training with the LFB, as well as sharing detail

on how we manage and maintain our fire assets with the LFB inspectors. It has also allowed us to address emerging issues constructively with the LFB.

## **Engagement with the Office of Rail and Road**

We continue to work closely with the ORR to ensure we manage health and safety effectively across our railway networks. We have regular discussions around our ongoing response to the coronavirus pandemic, as well as constructive open and honest discussions about any incidents on our network. We continue to work closely with them to identify opportunities for improving how we manage health and safety.

## **Coronavirus**

Since the start of the coronavirus pandemic, our response has evolved from immediate responses that protect the safety and health of our customers and workforce, to more continuous measures as we adapt to new ways of working and travelling. We continue to support the Government advice that customers should walk or cycle where possible, and avoid busy times and routes when using public transport, and we have implemented all Government guidance relating to the virus

### **Deaths in service**

Our sincere condolences remain with the families and loved ones of the 95 of our workforce who have sadly passed away from Covid-19 (as of 17 August 2021). Everyone at TfL pays tribute to the vital role they played in our fight against the pandemic. Our Employee Assistance Programme is available to all employees and their dependents, and provides support, guidance and information on a range of topics, including bereavement. The safety of all our staff and customers continues to be our top priority, and we are absolutely committed to doing everything in our power to keep everyone safe on our network.

### **Rapid Covid-19 testing pilot scheme**

We have been at the forefront of rolling out asymptomatic rapid testing to staff to help control infection outbreak. Testing has continued and expanded during the pandemic with new testing facilities opened at Hammersmith, Baker Street and our Stratford head office building Endeavour Square. These are in addition to the testing sites located at King's Cross LU station as well as Palestra and Pier Walk, our

Southwark and North Greenwich head office buildings respectively. By the end of May 2021, we tested more than 5,500 employees with only 0.6 per cent of people testing positive.

In addition to this work, we are continuing to operate a pilot scheme to deliver daily contact testing to staff in the Network Management and LU Control Centres, helping reduce absence rates by enabling regular testing as an alternative to self-isolation, under the terms of the pilot scheme. To date, this service has been used by 23 staff who were flagged as having a close positive contact, none of whom subsequently tested positive themselves.

On 4 March 2021, we started a pilot programme across 10 depots for home testing specifically for LU, fleet and maintenance train drivers and trainer communities to enable in-cab training to resume. The lateral flow home test kits were used in conjunction with PCR tests and the driver training programme is now back on track.

In April 2021, we introduced the Home Testing – Work Collect scheme at all testing sites in conjunction with a nationwide roll-out by the Department of Health and Social Care. We rolled out the distribution of home test kits from all our testing sites, as well as 15 additional locations, including depots, stations and service control centres. Staff can therefore have easy access to rapid tests which they can take home and test themselves twice a week.

During April and May 2021, we assisted the London boroughs of Lambeth, Tower Hamlets and Hackney with their surge testing initiatives to trace Covid-19 variants that were impacting the local community. We distributed PCR kits to TfL workplaces in these boroughs and we continue to work closely with the boroughs to help support them during this pandemic.

### **Imperial College London sampling**

Imperial College London monthly surface and air sampling for the presence of SARS-CoV-2 in customer areas continues. No trace of coronavirus has been found on our public transport network since sampling commenced in September 2020 with the latest sampling taking place in July 2021. Our Occupational Health team continues to liaise with academic institutions and other transport networks across the world to ensure our approach is at the cutting edge. As a result of our work, the Prague public transport network has started sampling on their travel network.

## **University College London sampling**

We are also working with UCL on its VIRAL Covid-19 research programme. This includes sampling of air and surfaces on buses for the presence of SARS-CoV-2, with negative results produced to date. In the coming months, the UCL research team will be collecting similar data on air and surfaces on carriages on the LU network and other bus models.

## **Extensive cleaning regime**

Over the past year, we had more than 11,000 applications of the antimicrobial agent Zoono on our LU and TfL Rail trains. This product is sprayed via an electro-static gun which allows the product to go further and last longer, killing any virus or bacteria that lands on it and so helping reduce the spread of coronavirus on our network. Our stations are continually being treated with antibacterial spray, with a focus on touch points, handrails and help points. More than 1,000 Dettol hand sanitiser units have been installed across the network for everyone to use, with 33,885 litres of hand sanitiser used to date.

## **Living with Covid-19**

We know that the pandemic presents us with a regularly changing situation and we will have to move to an approach where we are 'Living with Covid'. Throughout the pandemic our objective has been to ensure the safety of our workforce and our customers, which will allow us to continue to deliver our vital services for London.

As we look to the future, we will maintain the controls we have put in place to protect the health of our workforce and our customers. While the changing pandemic situation may lead to future changes in our approach (in light of the scientific and medical environment), we will carry out appropriate health and safety risk assessments before we make any significant changes. We will also continue to communicate regularly, openly and honestly with our workforce and customers about how we will continue to manage this risk.

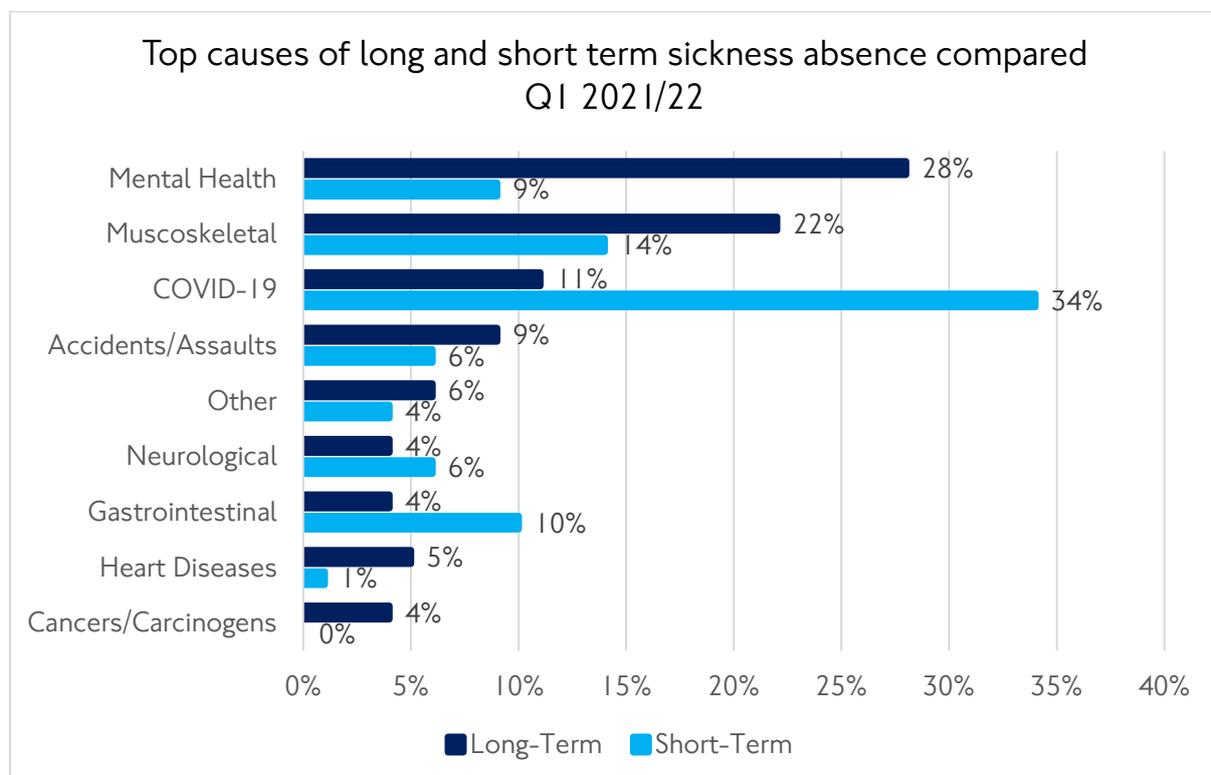
# Health

## Sickness absence data

When looking at our sickness absence data, the definition of short-term absence is any absence lasting less than 28 days and the definition of long-term absence is of 28 days or more duration.

By looking at the underlying causes of absence in detail, we gain meaningful insight into where we can best target preventative measures. Around 60 per cent of absences at any time are caused by long-term sickness.

### Top causes of absence 2021/22 vs Quarter 1



In Quarter 1 of 2021/22, mental health accounted for 28 per cent of all long-term absences and muscoskeletal related absence was the second highest cause at 22 per cent. These two categories typically account for the majority of long term

sickness absence in the UK. Our Occupational Health team has several initiatives aimed at prevention of ill health but also to support those who become unwell to return to work earlier.

In Quarter 1 of 2021/22, Covid-19 remained the top cause of short-term absence at 34 per cent, up slightly from the previous Quarter (31 per cent). In Quarter 1, national measures aimed at tackling the pandemic became less restrictive, potentially leading to the 3 per cent rise in short term absences. Looking ahead, in Quarter 2 most legal restrictions on social distancing in England ended, which may have a future impact on the short-term absence figures relating to Covid-19.

## **Health updates**

### **Kaido team wellbeing challenge**

Over 1,200 members of our workforce joined in with the Kaido Wellbeing team challenge which concluded on 18 June 2021. The challenge encouraged teams to work together to earn points by increasing activity levels, trying new types of exercise and adding mindfulness to the daily routine. The winners were a team of Customer Service Assistants from the Victoria line called Red Panda. The engagement report showed that 88 per cent of participants felt healthier at the end of the challenge, 31 per cent slept more, 82 per cent were making better nutrition choices, 78 per cent had increased their daily steps, 47 per cent had tried a new form of exercise and 88 per cent said their overall activity levels had increased.

### **Mental Health Awareness Week**

From 10 to 16 May 2021, we held our Mental Health Awareness Week. Every year, the Mental Health Foundation sets the theme for the week and this year's theme was 'nature'. Access to nature is crucial for good mental health, as millions have people have discovered during lockdown. However, there are often barriers to accessing nature and clean air, especially in inner-London or in deprived areas. We have focused on highlighting all the mental health resources available to our staff and are encouraging them to try a 'mindful walk', tuning into the environment while walking and focusing on the present moment. In addition, several talks have been made available to employees, including a session on mental health from the perspective of minority groups, a presentation from Able Futures and a talk from mental health campaigner Hope Virgo.

## **Bowel cancer awareness**

Bowel cancer is one of the most common types of cancer diagnosed in the UK and is currently the fourth most common cancer in England. To highlight this disease and to provide information on the signs and symptoms, we invited the charity Bowel Cancer UK to give two talks, open to all employees, on 29 April 2021. The talks were recorded and have been added to the internal Wellbeing channel, to ensure that anyone unable to attend the live talks can easily catch up with these informative sessions in their own time.

## **Virtual health assessments**

A small trial of virtual one-to-one health assessments was conducted during June 2021. Participants booked a convenient time slot online and received a small home testing kit to test for blood glucose and cholesterol, as well as thyroid testing for women and prostate testing for men. The health assessment itself consisted of a 30-minute confidential session with a health advisor to discuss the test results.

The assessments provided Occupational Health with anonymous aggregated data which showed that of the 241 assessments carried out, 92 per cent of those attending had the recommended heart rate levels, 91 per cent were of a low cardiac risk, 93 per cent were at low risk of diabetes and within government recommended guidelines 65 per cent were within government guideline levels of total cholesterol.

However, looking at activity levels, 89 per cent thought they were not active enough and 23 per cent felt they did not get enough sleep. The follow up survey showed that 90.6 per cent found it a positive experience, 90 per cent rated the assessments useful and informative, while 77.3 per cent said they would make lifestyle changes as a result of attending the assessment.

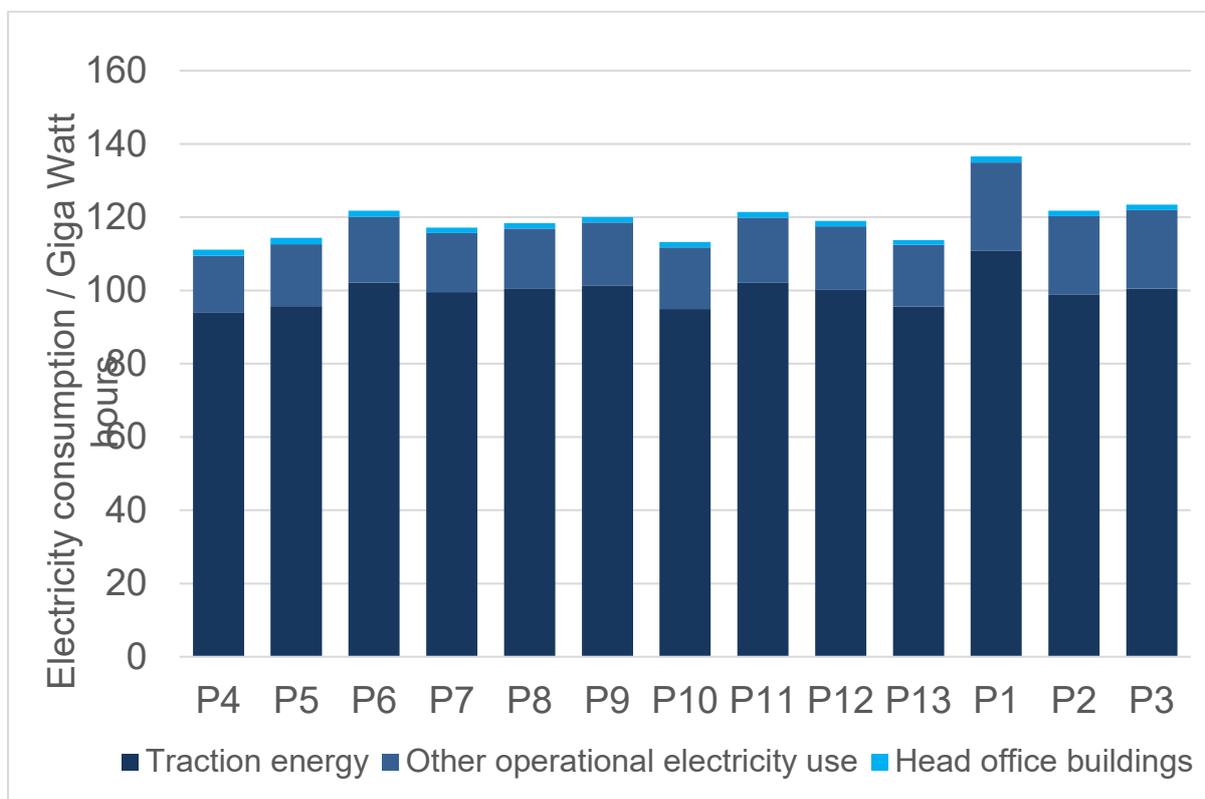
# Environment

## Environment performance

The years leading to 2030 are crucial in our fight to prevent devastating climate change. The UK must make significant reductions in its carbon emissions if it is to meet its legally binding goal of reaching net-zero carbon by 2050. In London, the Mayor has set an ambitious goal of London becoming carbon neutral by 2030.

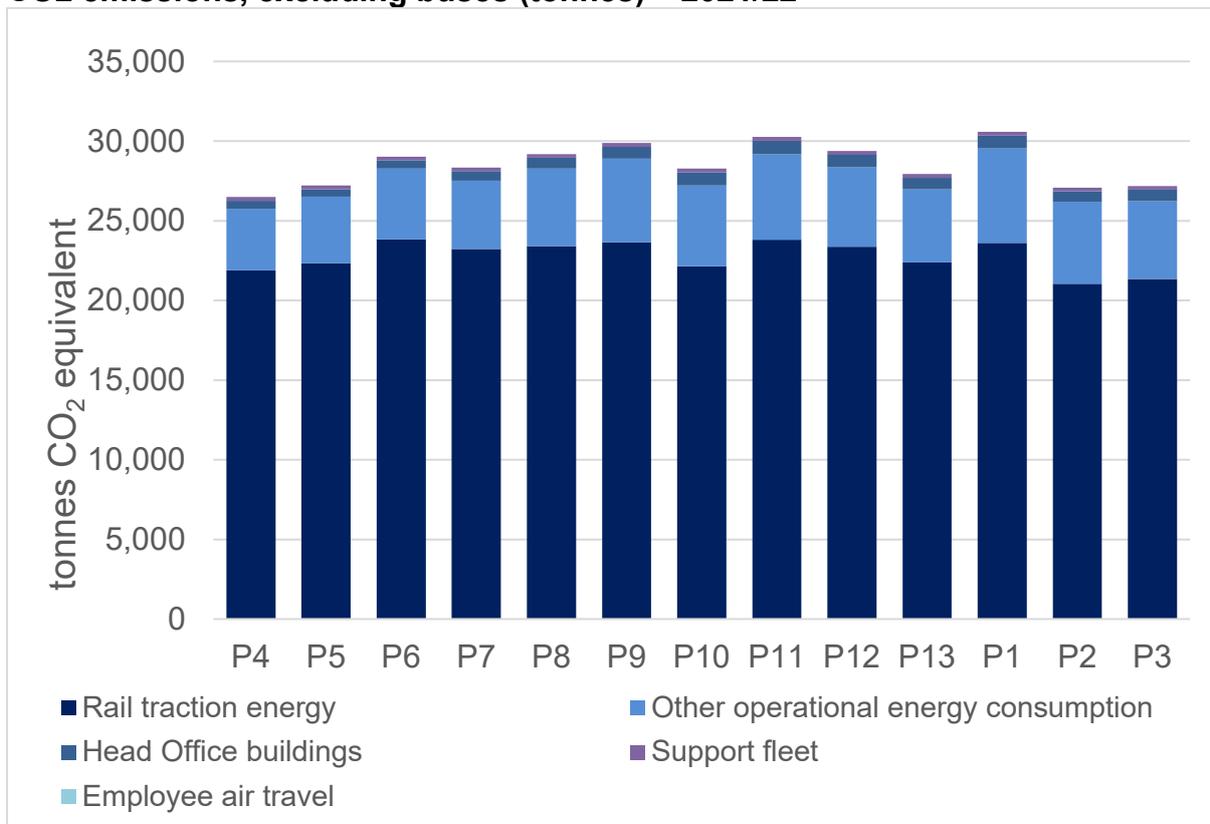
Transport is responsible for more than a quarter of London’s carbon emissions, and this is increasing as other sectors decarbonise. We play a vital role in providing low carbon public transport to Londoners and in promoting walking and cycling. However, we must also lead by example and reduce carbon emissions from everything we do.

### Electricity consumption - provisional (giga watt hours) – 2020/21



Our electricity consumption in Quarter 1 reflected the near normal operation of our services, a period which included the reopening of the Waterloo & City line for first time since March 2020. Compared to the same Quarter last year, consumption was 31 per cent higher due to reduced service levels as a result of the pandemic.

**CO2 emissions, excluding buses (tonnes) – 2021/22**



Carbon dioxide emissions from operations, excluding buses, track closely to electricity consumption. Despite a 31 per cent increase in electricity consumption compared to Quarter 1 last year, carbon emissions were only 21 per cent higher, partly offset by grid decarbonisation.

## Environment updates

### Ultra low emission zone expansion

In 2019, we introduced the world's first 24-hour Ultra Low Emission Zone (ULEZ) in central London. This has helped tackle air pollution, contributing to a 44 per cent reduction in roadside nitrogen dioxide levels within its boundary. From 25 October 2021, the existing central London ULEZ will be expanded up to, but not including, the North Circular Road (A406) and South Circular Road (A205), creating a much larger zone that will help improve air quality for millions more Londoners. Cars, motorcycles, minibuses (up to five tonnes), vans (up to 3.5 tonnes) and other specialist vehicles driving within the boundary will need to meet the required ULEZ emissions standards or pay a daily charge.

A key element of this expansion is to move the existing operational systems to a cloud-based platform, which will enable us to deal with the increased volumes of data. We have successfully migrated three of the four tranches of systems and applications to the cloud platform and are now testing the final tranche ahead of migration in late summer.

We have installed around 600 new cameras around the expanded zone, with more to follow. These have been positioned in a way that addresses privacy concerns while maintaining effectiveness. We have completed design and build of the new camera data processing system and are in the final stages of testing before it goes online in late summer. We are nearing the end of installation of foundation sockets for the new boundary signs and have started installing the signs and posts.

Work continues on the marketing campaign to raise awareness of the ULEZ expansion and educate drivers on how and where the scheme will operate, encouraging them to check their vehicles and plan their options ahead of October 2021. This campaign includes posters, radio adverts, press and online advertising, leaflets for local residents, press activity and stakeholder engagement, and will run until the scheme launches.

On 1 March 2021, we started enforcing tougher emissions standards for heavy vehicles operating within the existing London-wide Low Emission Zone. This means that all heavy vehicles entering London must meet the cleanest Euro VI emissions standards or pay a daily charge. By the end of 2020, nearly 90 per cent of heavy vehicles in London were compliant, highlighting how effective the scheme has been in encouraging operators to upgrade to cleaner vehicles. The Mayor asked us to delay the introduction of the tougher standards for the Low Emission Zone from 26 October 2020 until 1 March 2021 in response to concerns about the impact of the

pandemic on supply chains for newer vehicles and retrofit equipment during the tightest lockdown restrictions in early 2020. This decision was reviewed in early September 2020 and we found that supply chains have now resumed and are able to meet the expected demand.

### **Direct vision standard**

In March 2021, in partnership with London boroughs, the freight industry and campaign groups, we delivered a radical improvement to road safety in the UK with the introduction of the pioneering Direct Vision Standard (DVS). Three months on, the data shows that this vital lorry safety scheme, which reduces lethal blind spots, is already helping to save lives and prevent life-changing injuries.

Our DVS scheme requires the owners of heavy goods vehicles (HGVs) weighing more than 12 tonnes to apply for a free permit that assigns vehicles a star rating based on how much the driver can see directly through their cab windows in order to be able to drive in London. It is now operating 24 hours a day, seven days a week and is enforced on all roads in London. The standards are set to tighten further in 2024, which will result in even safer lorries operating across the country.

To date, more than 136,000 permits have been issued, including more than 4,000 to five-star vehicles, which provide the highest levels of direct vision. Around 70,000 zero-star HGVs have now had safe systems fitted, improving protection for people walking, cycling or riding e-scooters or motorcycles and helping to prevent fatal collisions on roads.

Those without a permit face a penalty charge notice of up to £550, with around 7,000 notices having been issued since March. Our enforcement officers also carry out roadside inspections to check HGVs are safe and that safety measures are in place, resulting in some permits being revoked.

### **Scrappage schemes**

We have continued to operate the Mayor's scrappage schemes to help drivers scrap their older, more polluting vehicles to meet required emissions standards. To date, the schemes have supported the scrapping of more than 9,000 vehicles, with more than £40m of grant payments issued.

Following the receipt of additional funding from the GLA, the Van and Charity Minibus Scrappage Scheme has been able to make new offers totalling £1.7m to a number of applicants who were held in a queue since the scheme was suspended in August 2020.

Funding for the ULEZ Car and Motorcycle Scrappage Scheme has also been increased by £2.5m. This scheme offers grants to any London resident who receives certain means-tested or non-means-tested disability benefits. The extra funding will enable the scheme to continue to offer support to these target groups who may be disproportionately affected by the expansion of the ULEZ.

### **Rapid charging**

To support the growing number of zero emission capable taxis and wider take up of electric vehicles, we have invested £18m to build a network of electric vehicle rapid charge points. We have now installed more than 300 such charge points, as well as the multiple rapid charge point hub site at Glass Yard in Greenwich. Work continues on the rapid charge point hub site at Baynard House in the City of London, which is expected to be completed in late summer.

While the pace of recent electric-vehicle infrastructure delivery has been impressive, current public funding streams are coming to an end and we need to set out what needs to happen to move the agenda forward. The Government's intention to end new car sales for petrol and diesel cars and vans by 2030 will further accelerate the switch to electric vehicles and create increased demand for infrastructure.

Accordingly, we are now developing a new strategy outlining our updated forecasts for London's electric vehicle infrastructure needs by 2030, identifying how the public sector can further support this and remove barriers for the private sector, and what Government funding or support is required to achieve this.

### **Electric vehicle infrastructure delivery**

Having successfully installed more than 300 rapid and 3,000 residential electric vehicle charge points to date, we are now leading on developing a delivery model for the roll out of additional facilities to meet growing demand. The objective of this programme is to make use of Greater London Authority land to accommodate electric vehicle charging requirements and establish efficient mechanisms for delivery. Work is progressing well, with outputs to be informed by feedback from stakeholders involved in electric vehicle infrastructure and our emerging Electric Vehicle Infrastructure Strategy. This work makes charging infrastructure available to a variety of users across London, which will enable the switch to zero-emission vehicles ahead of the ban on petrol and diesel sales from 2030.

## **Zero-emission buses**

London now has more than 500 zero emission buses in its fleet – marking a major milestone on our journey to reducing reliance on conventional diesel vehicles and cutting carbon dioxide emissions in the capital. We surpassed this number, totalling more than five per cent of our overall fleet at the end of May 2021, at the same time as the Mayor visited Switch Mobility’s electric bus factory in North Yorkshire. On 23 June 2021, the Mayor also launched the introduction of twenty double-deck zero-emission hydrogen fuel cell buses into the fleet. We have harnessed this technology previously in London, to help reduce bus emissions and, like pure electric buses, this ensures that no harmful tailpipe exhaust gases are emitted. The hydrogen vehicles are based at Perivale garage in west London.

Our aim is to continue adding zero-emission buses to our fleet as quickly and affordably as we can so that we can make the entire fleet zero emission by 2037, with options for bringing this forward to 2030 if funding can be provided from the Government for new vehicles and charging infrastructure. Since January 2021, emissions for the entire core bus fleet have reduced further after older, more polluting vehicles were upgraded or phased out – leaving only the cleanest Euro VI engine buses with much lower nitrogen oxide levels and particulate matter exhaust emissions.

## **Zero-emission maintenance fleet**

Our Surface Asset Operations fleet of 3.5-ton vans are our first ever electric construction and maintenance vans to go out on the road network. This makes TfL one of the few transport authorities country wide to adopt an electric van fleet.

## **Limmo Peninsula ecological enhancements**

While we prepare our site on the Limmo Peninsula in Canning Town for the development of hundreds of new homes and green space, we are working with a south London beekeeping organisation to install beehives on our land. Our partnership with Bermondsey Street Bees is helping to support ecological diversity around the site without competing with existing species. From this summer, the hives will start to produce honey, which will be sold to London’s restaurants and catering businesses.

## **CEEQUAL “Very Good” for the Train Modification Unit**

The new AC14 building at Acton, to be used by the Train Modification Unit (TMU), has just received a “Very Good” CEEQUAL Award. CEEQUAL is the independent and globally renowned sustainability award scheme for civil engineering projects. Part of its sustainable credentials includes a large wildflower meadow roof and the installation of 598 solar panels, which will return 152,3000 kwh to the grid every year and save 58.2 tonnes/year of CO<sub>2</sub>.